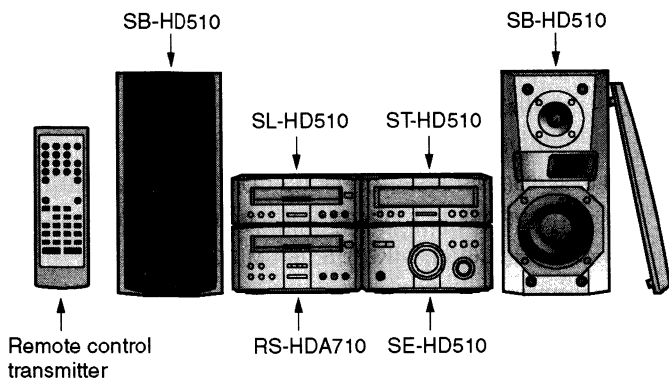


Service Manual

Compact Disc Player

COMPACT
disc
DIGITAL AUDIO

MASH
multi-stagenoiseshaping



SL-HD510 SL-HD310

Traverse Deck : RAE0152Z Mechanism Series

Colour

(N).....Gold Type

Area

E.....Europe.

System:SC-HD510

SC-HD310

Because of unique interconnecting cables, when a component requires service, send or bring in the entire system.

Note: Refer to the service manual for Model No.SE-HD510,SE-HD310 (ORDER NO.AD0001015C2, AD0001018C2) for information on "ACCESSORIES" and "PACKAGING".

Specification

●Audio	
DA converter:	1 bit 2 DAC MASH
Digital output terminal:	Opticalx1
●Pickup	
Wavelength:	780nm
●Format	
Sampling frequency:	44.1kHz
●General	
Dimensions (WxHxD):	196x76.8x243.1mm
Weight:	1.2kg
Power Supply[For (E) area only]:	DC13V/10V

Power Consumption: 10W

Notes:

- 1.Design and specifications are subject to change without notice.
- 2.Dimensions and weight are approximate.

●System/SC-HD510

Tuner:ST-HD510, Compact Disc Player:SL-HD510, Amplifier:SE-HD510, Cassette Deck:RS-HDA710, Speakers:SB-HD510(Made in MAES.)

●System/SC-HD310

Tuner:ST-HD310, Compact Disc Player:SL-HD310, Amplifier:SE-HD310, Cassette Deck:RS-HD310, Speakers:SB-HD310 (Made in MAES.)

⚠ WARNING

This service information is designed for experienced repair technicians only and is not designed for use by the general public. It does not contain warnings or cautions to advise non-technical individuals of potential dangers in attempting to service a product. Products powered by electricity should be serviced or repaired only by experienced professional technicians. Any attempt to service or repair the product or products dealt with in this service information by anyone else could result in serious injury or death.

Technics®

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1 Before Repair

These equipments (SL-HD510/310), which are the components of these systems, are supplied with power from the amplifiers (SE-HD510/310) through the tuners (ST-HD510/310). When repairing these equipments or checking operation of the systems, be sure to connect the amplifiers and tuners with it.

These equipments, even in the state of it as a single equipment, permits power supply and operation check. When operating it as a single equipment without the amplifier and tuner, refer to the paragraph of "Measurements and Adjustments."

2 Precaution of Laser Diode

CAUTION:

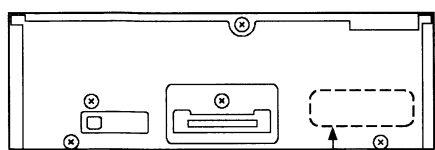
This product utilizes a laser diode with the unit turned "on", invisible laser radiation is emitted from the pickup lens.

Wave length: 780 nm

Maximum output radiation power from pickup: 100 μ W/VDE

Laser radiation from the pickup lens is safety level, but be sure the followings:

1. Do not disassemble the optical pickup unit, since radiation from exposed laser diode is dangerous.
2. Do not adjust the variable resistor on the pickup unit. It was already adjusted.
3. Do not look at the focus lens using optical instruments.
4. Recommend not to look at pickup lens for a long time.



LUOKAN 1 LASERLAITE
KLASS 1 LASER APPARAT

ACHTUNG:

Dieses Produkt enthält eine Lasereinheit.

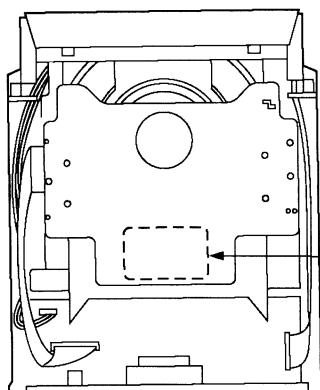
Im eingeschalteten Zustand wird unsichtbare Laserstrahlung von der Lasereinheit abgestrahlt.

Wellenlänge: 780 nm

Maximale Strahlungsleistung der Lasereinheit: 100 μ W/VDE

Die Strahlungen der Lasereinheit ungefährlich, wenn folgende Punkte beachtet werden:

1. Die Lasereinheit nicht zerlegen, da die Strahlung an der freigelegten Lasereinheit gefährlich ist.
2. Den werkseitig justierten Einstellregler der Lasereinheit nicht verstellen.
3. Nicht mit optischen Instrumenten in die Fokussierlines blicken.
4. Nicht über längere Zeit in die Fokussierlines blicken.



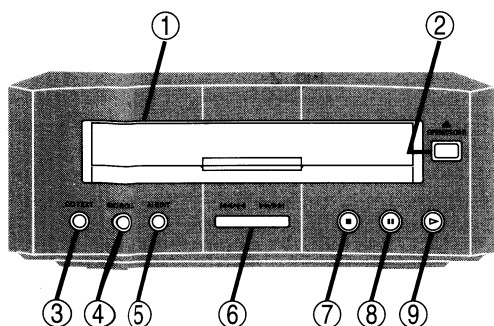
DANGER	INVISIBLE LASER RADIATION WHEN OPEN AVOID DIRECT EXPOSURE TO BEAM
ADVARSEL	USYNLIG LASERSTRÅLING VED ÅBNING, NR SIKKERHEDSÅREBEREDE ER UDDE AF FUNKTION. UNDG UDSTTELSE FOR STRÅLING
VARO!	AVATTAESSA JA SUOJALUKUTUS OHITETTAESSA OLET ALTTIINA NÄKYMÄNT LASERSTEILYLLÄ. L. KATSO STEESEEN
VARNING	OSYNLIG LASERSTRÅLING NR DENNADDEL R... FÖR NÅD OCH SPRÄDNING RIKTIGT PLÅD. BETRÄKTA EJ STRÅLEN
ADVARSEL	USYNLIG LASERSTRÅLING NR DERSSEL PÅRIS OGS SIKKERHEDSLS BRYTES... UNDG EKSPONERING FOR STRÅLEN
VORSICHT	UNSIHTBARE LASERSTRÅHLUNG WENN ABDECKUNG GE... FENET NICHT DEM STRAHL AUSSETZEN

CAUTION!

THIS PRODUCT UTILIZES A LASER.

USE OF CONTROLS OR ADJUSTMENTS OR PERFORMANCE OF PROCEDURES OTHER THAN THOSE SPECIFIED HEREIN MAY RESULT IN HAZARDOUS RADIATION EXPOSURE.

3 Operating Instructions



- ① Disc tray
- ② Disc tray open/close button (▲ OPEN/CLOSE)
- ③ CD TEXT button (CD TEXT)
- ④ Scroll button (SCROLL)
- ⑤ AI edit button (AI EDIT)
- ⑥ Skip/search buttons (◀◀/◀, ▶/▶▶)
- ⑦ Stop button (■)
- ⑧ Pause button (||)
- ⑨ Play button and indicator (▷)

The color of the indicator depends on the operation taking place.

If stopped: orange

If playing: green

4 Handling Precautions for Traverse Deck

The laser diode in the traverse deck (optical pickup) may break down due to potential difference caused by static electricity of

clothes or human body. So, be careful of electrostatic breakdown during repair of the traverse deck (optical pickup).

4.1. Handling of traverse deck (optical pickup)

1. Do not subject the traverse deck (optical pickup) to static electricity as it is extremely sensitive to electrical shock.
2. The short land between the No. 5 (GND) and No. 4 (LD) pins on the flexible board is shorted with a solder build-up to prevent damage to the laser diode. (As shown in Fig. 1.)
To connect to the PC board, be sure to open by removing the solder build-up, and finish the work quickly.
3. Take care not to apply excessive stress to the flexible board (FFC).
4. Do not turn the variable resistor (laser power adjustment). It has already been adjusted. (As shown in Fig. 1.)

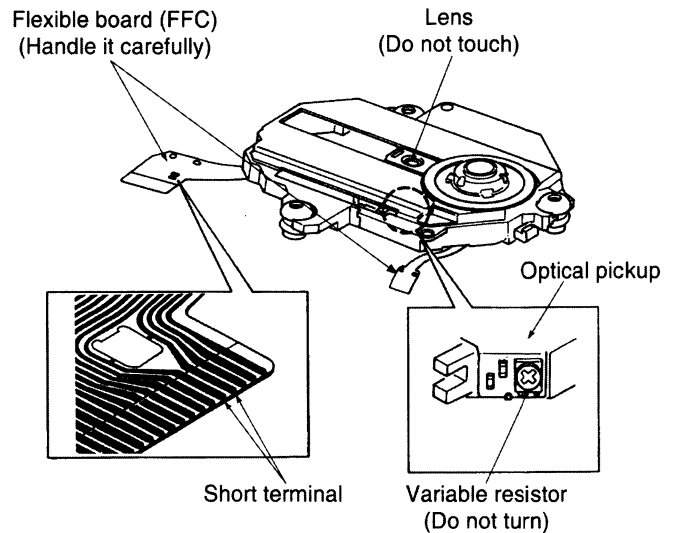


Fig. 1

4.2. Grounding for electrostatic breakdown prevention

1. Human body grounding

Use the anti-static wrist strap to discharge the static electricity from your body. (As shown in Fig. 2.)

2. Work table grounding

Put a conductive material (sheet) or steel sheet on the area where the optical pickup is placed, and ground the sheet.

Caution:

The static electricity of your clothes will not be grounded through the wrist strap. So, take care not to let your clothes touch the traverse deck (optical pickup).

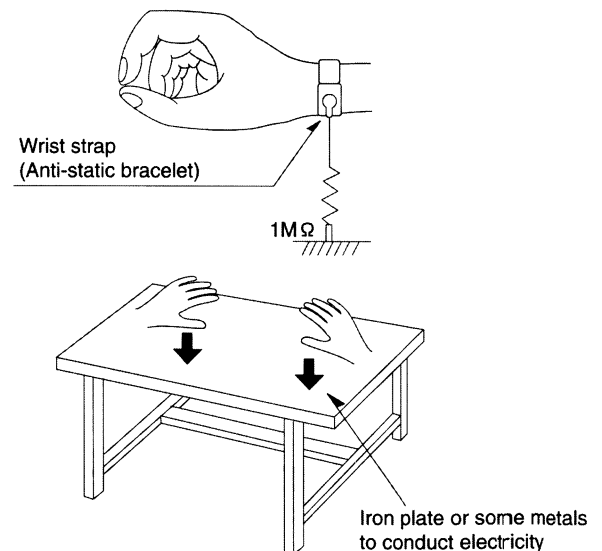
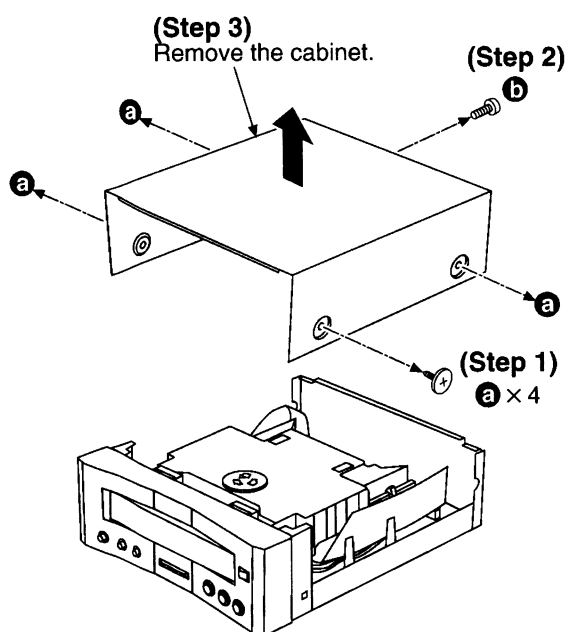


Fig. 2

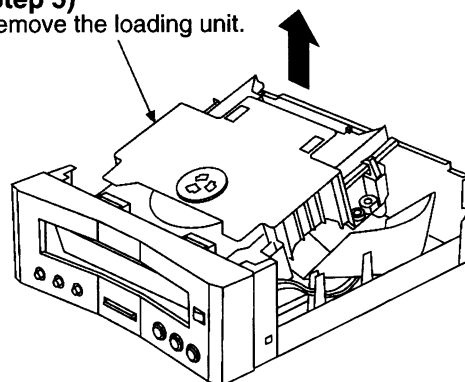
5 Operation Checks and Component Replacement Procedures

- This section describes procedures for checking the operation of the major printed circuit boards and replacing the main components.
- For reassembly after operation checks or replacement, reverse the respective procedures. Special reassembly procedures are described only when required.

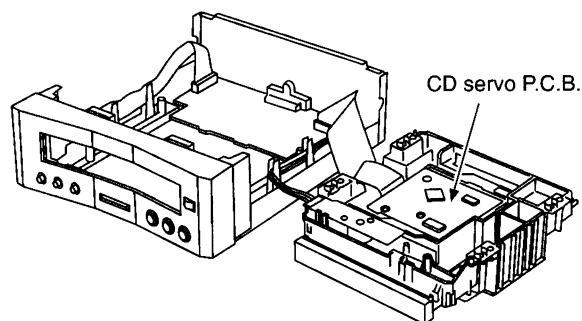
5.1. Checking for the CD servo P.C.B.



(Step 5) Remove the loading unit.

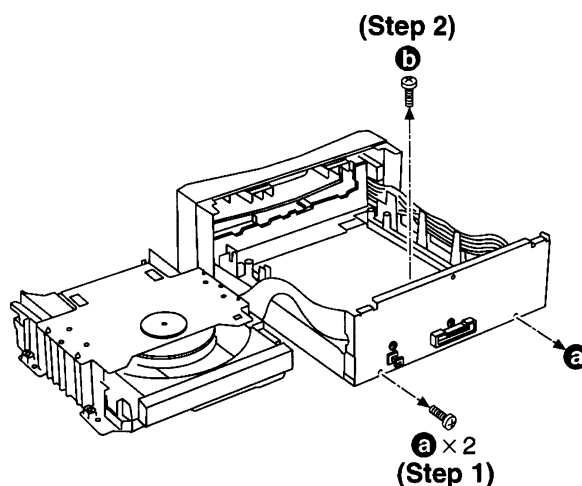
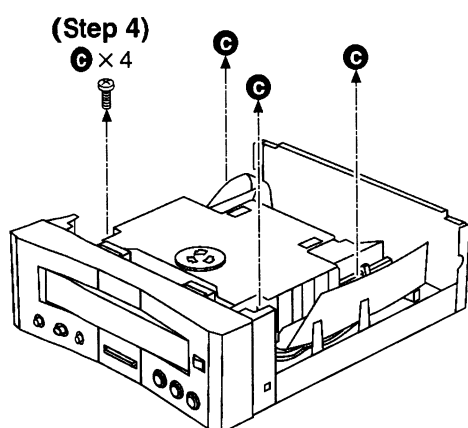


- Check the CD servo P.C.B. as shown below.



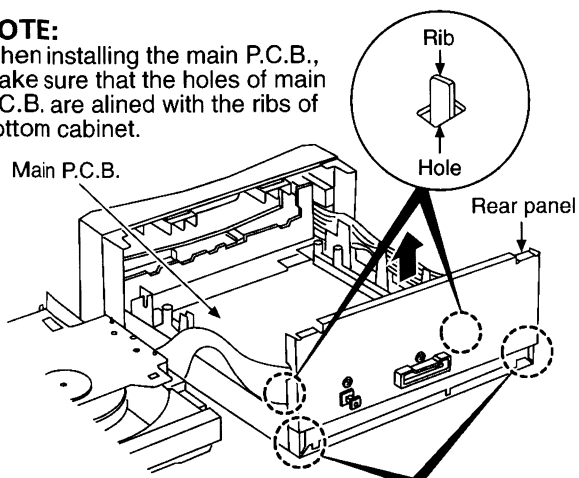
5.2. Checking for the main P.C.B.

- Follow the (Step 1) - (Step 5) of item 5.1.

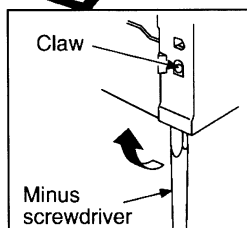


NOTE:

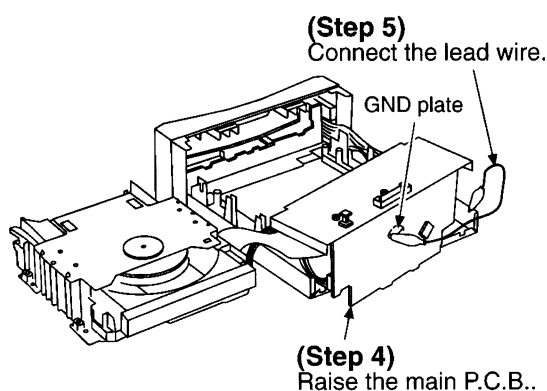
When installing the main P.C.B., make sure that the holes of main P.C.B. are aligned with the ribs of bottom cabinet.

**(Step 3)**

Release the 2 claws, and then remove the main P.C.B. and rear panel.



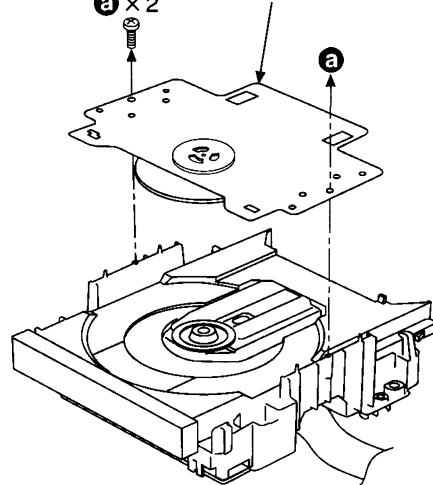
- Check the main P.C.B. as shown below.



(Step 5)
Connect the lead wire.

(Step 4)
Raise the main P.C.B..

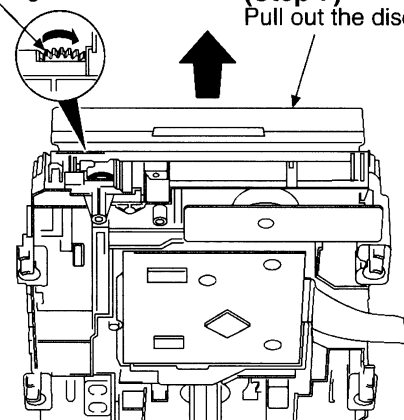
(Step 4) **(Step 5)**
Remove the disc clamber ass'y.

**(Step 6)**

Rotate the gear.

(Step 7)

Pull out the disc tray.



5.3. Replacement for the traverse deck ass'y

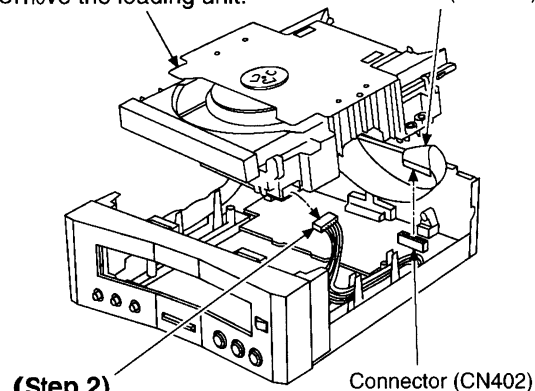
- Follow the (Step 1) - (Step 5) of item 5.1.

(Step 3)

Remove the loading unit.

(Step 1)

Pull out the FFC from connector (CN402).

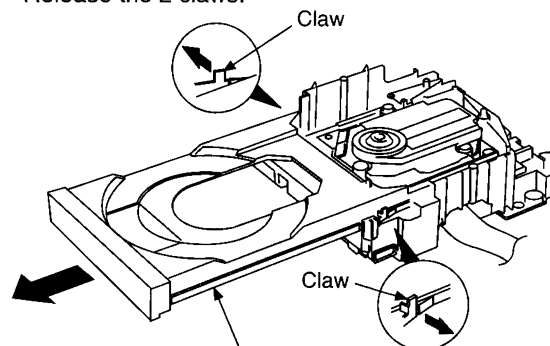
**(Step 2)**

Remove the connector.

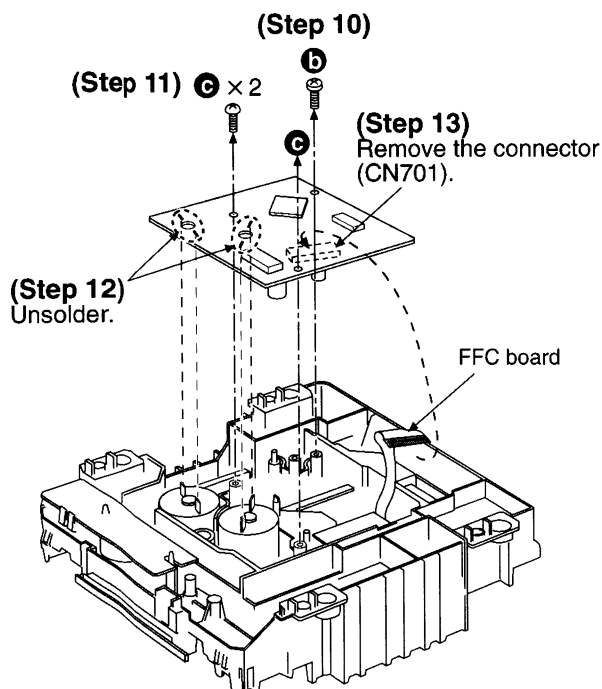
Connector (CN402)

(Step 8)

Release the 2 claws.

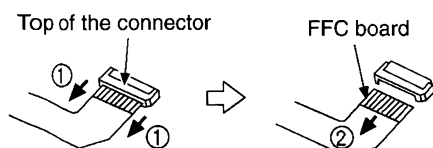
**(Step 9)**

Pull out the disc tray.

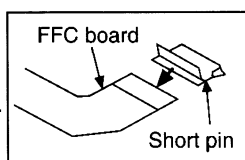


■ Removal of the FFC board

※ Push the top of the connector in the direction of arrow ①, and then pull out the FFC board in the direction of arrow ②.

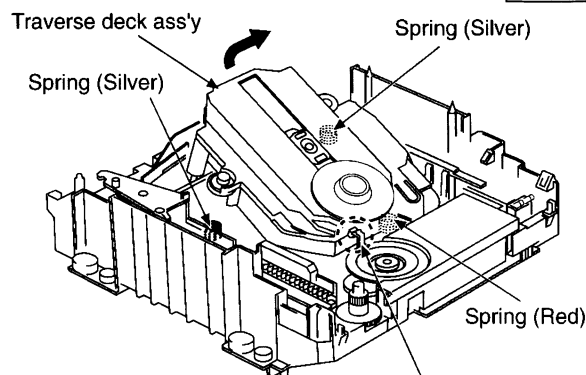
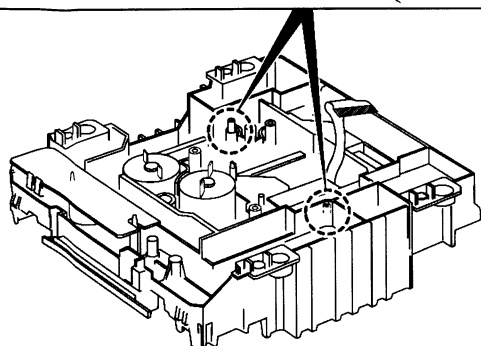
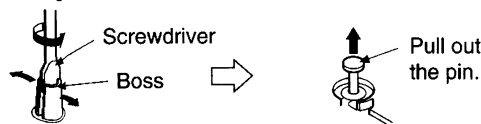


NOTE:
Insert a short pin into the traverse unit FFC board.
(Refer to "Handling Precautions for Traverse Deck".)



(Step 14)

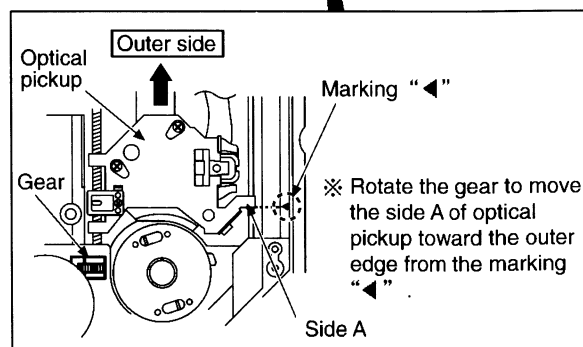
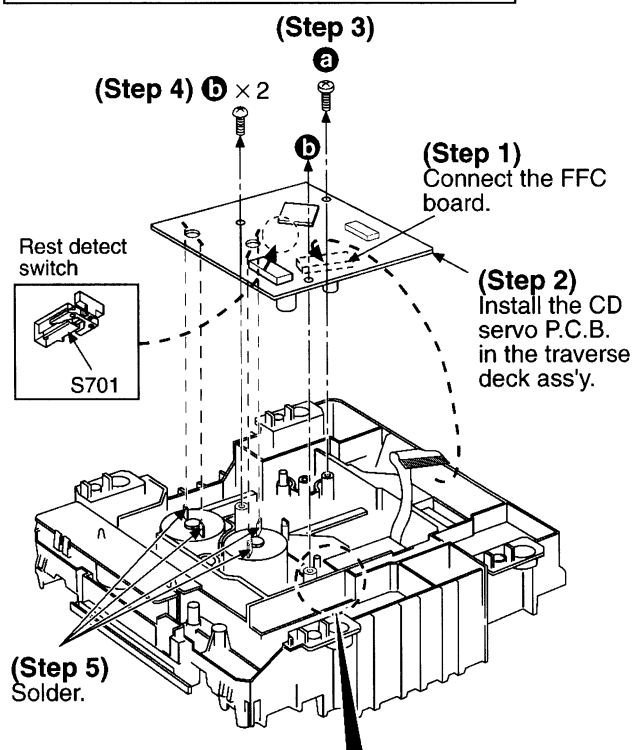
1. Widen the boss using a regular screwdriver.
2. Pull out the pin in the direction of the arrow.



NOTE:
Be careful not to lose the 3 springs because those will also be removed on removal of the traverse deck ass'y.

(Step 15) Remove the claw.

Installation of the CD servo P.C.B. after replacement

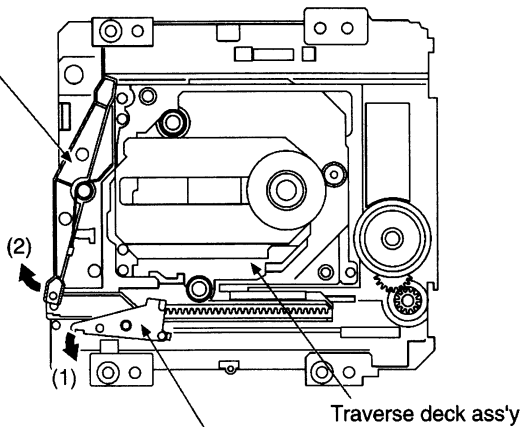


NOTE:
Before installing the CD servo P.C.B., move the optical pickup toward the outer edge from the mark "◀".
[Otherwise, the rest detect switch (S701) mounted on the CD servo P.C.B. may be damaged.]

Installation of the disc tray after replacement

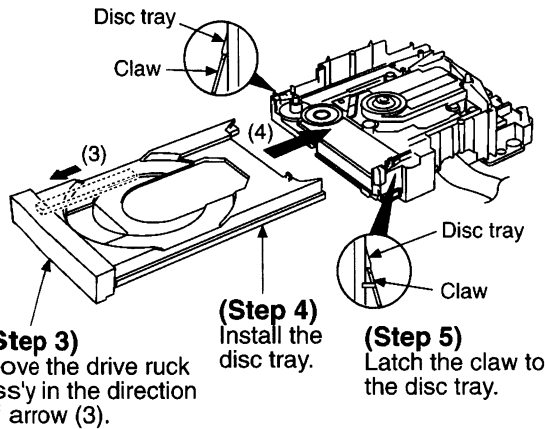
(Step 2)

Operate the conversion lever, and then locate the traverse deck ass'y to "UP" position.



(Step 1)

Release the lock lever.



(Step 3)

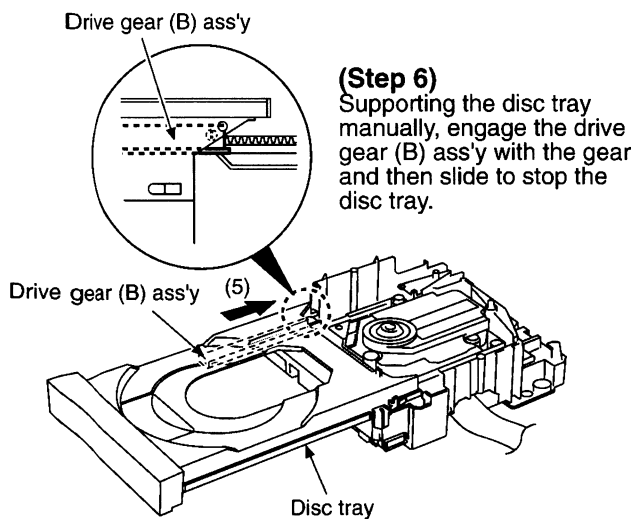
Move the drive rack ass'y in the direction of arrow (3).

(Step 4)

Install the disc tray.

(Step 5)

Latch the claw to the disc tray.

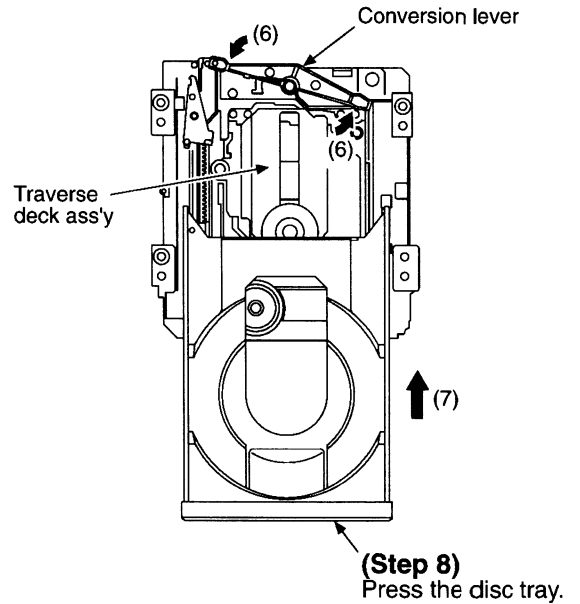


(Step 6)

Supporting the disc tray manually, engage the drive gear (B) ass'y with the gear and then slide to stop the disc tray.

(Step 7)

Operate the conversion lever, and then locate the traverse deck to "DOWN" position.

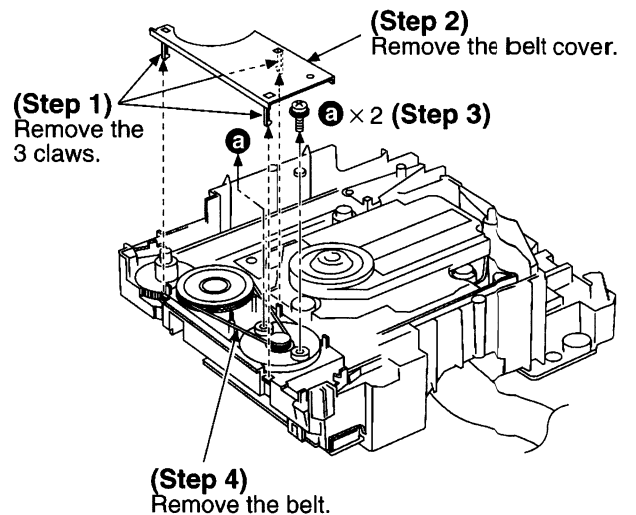


(Step 8)

Press the disc tray.

5.4. Replacement for the belt, loading motor ass'y and loading switch

- Follow the (Step 1) - (Step 5) of item 5.1.
- Follow the (Step 1) - (Step 9) of item 5.3.



(Step 2)

Remove the belt cover.

(Step 1)

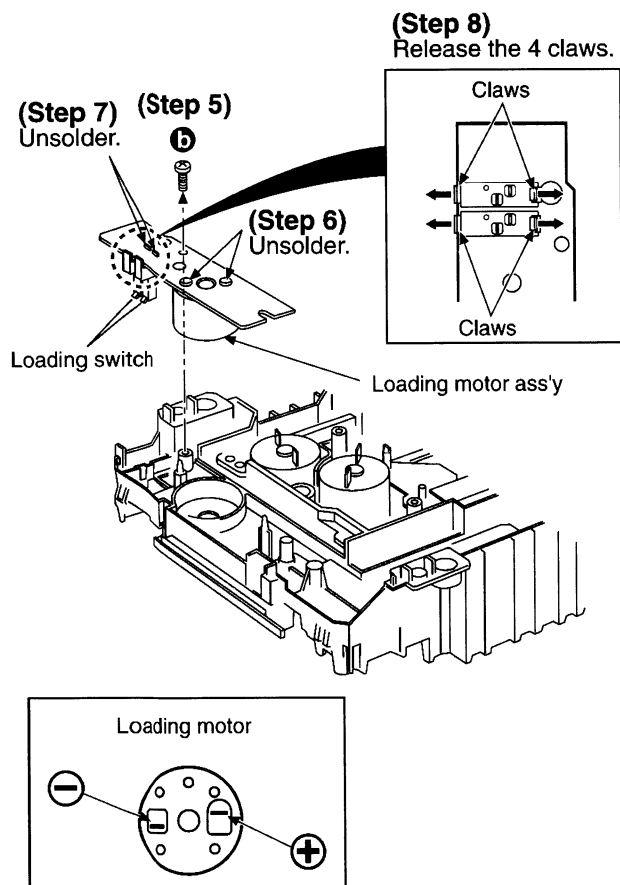
Remove the 3 claws.

(Step 3)

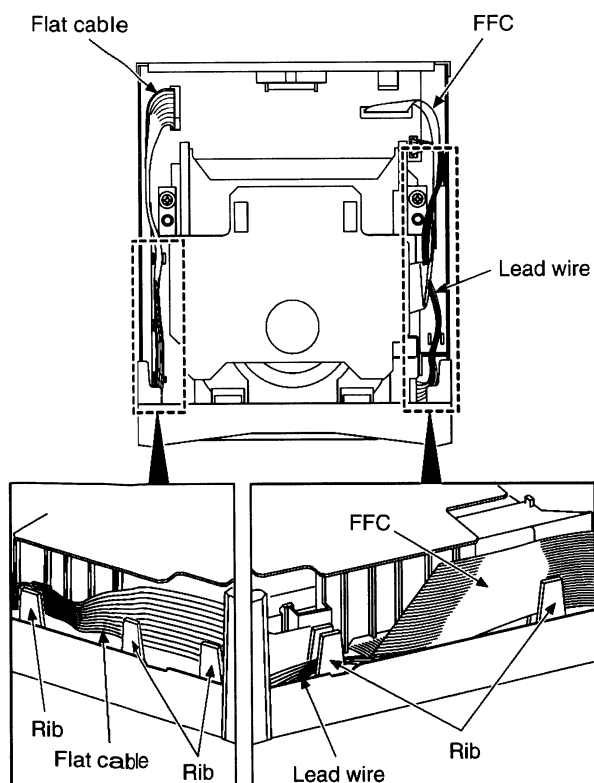
Remove the 3 claws.

(Step 4)

Remove the belt.



5.5. Lead wire and flat cable arrangement



6 Error Code Display and Servo Adjustment Function

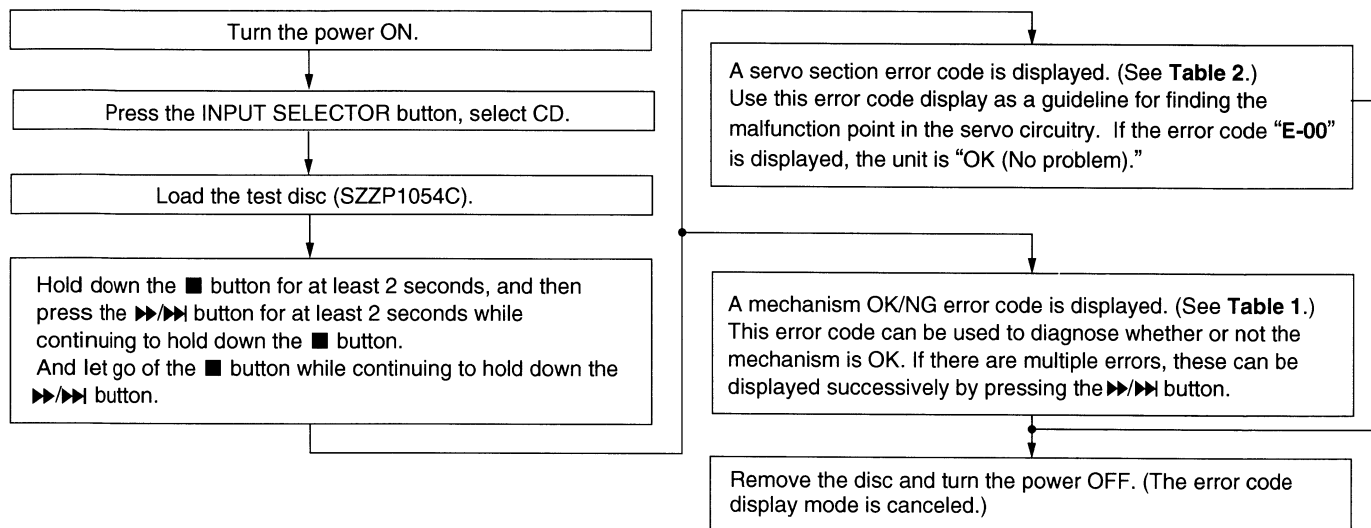
These units have an error code display function, so that if the units operate incorrectly, the fault is displayed using an error code on the FL display of the tuners (ST-HD510/310). They also have a servo adjustment function for displaying the status of servo system functions (focus, tracking, CLV) on the tuner's FL display. The systems control IC and FL display are part of the tuners so make sure the system have been connected properly before using these functions. (These units can be

operated independently, although the error code display and servo adjustment functions cannot be used.) Use these two functions for guidance during fault diagnosis and repair.

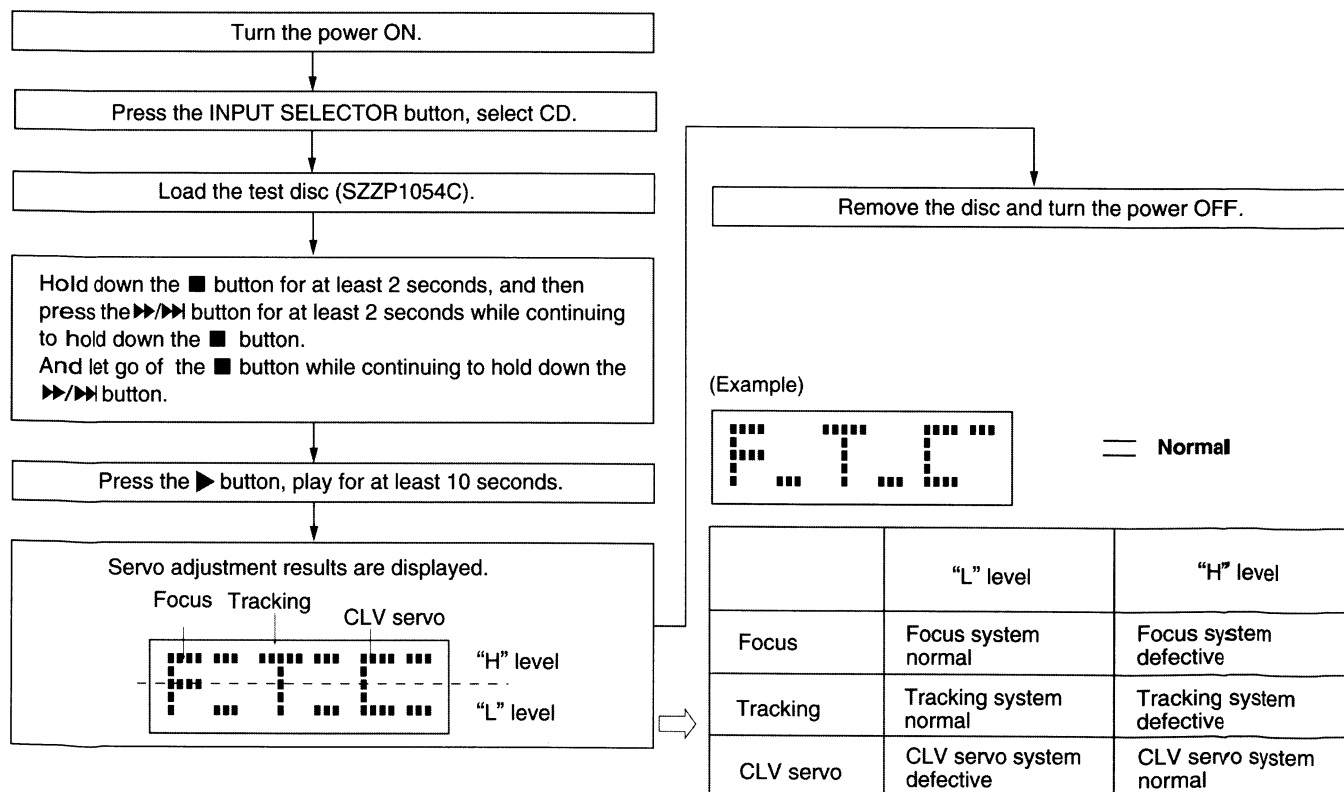
Note:

Check beforehand for scratching or soiling of the test disc (SZZP1054C), and soiling or other problems with the optical pickup lens.

6.1. Error code display procedure



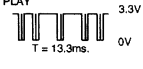
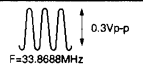
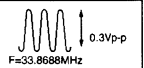
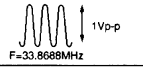
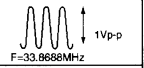
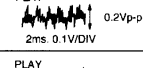
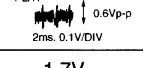
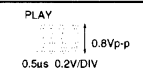
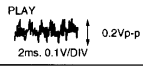
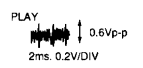
6.2. Servo adjustment procedure



6.3. Table 1

FL display	Symptom	Cause
H - 15	When CD tray opens, it closes by itself.	Disc tray "Open" detection sensor fault.
H - 16	When CD tray closes, it opens by itself.	Disc tray "Closed" detection sensor fault.
F - 15	Does not play, even when ► (PLAY) is pressed.	Pickup rest position detection switch fault.
F - 26	Does not move even when ► (PLAY) is pressed.	System control or servo processor IC fault.

6.4. Table 2

FL error code display	Symptom	Probable cause	Signal to check		Normal voltage and waveform values	
			Signal name	Location	PLAY	STOP
E-01	Focus and tracking offset adjustments not completed in the specified time period.	1. Clocks X1, power supply VDD and reset/RST, all on IC702. 2. MDATA, MCLK, and MLD signal to/from IC403.	IC702 ⑧pin	MDATA		0V
			IC702 ⑦pin	MCLK		3.4V
			IC702 ⑨pin	MLD		
			IC702 ⑱pin	/RST	3.3V	3.3V
			IC702 ⑤⑨pin	X1 IN		
			IC702 ⑤⑨pin	X2 OUT		
E-02 E-04 E-06 E-0A E-0C E-0E	Disc play unstable.	1. Scratches or contaminants on disc surface. 2. Focus and tracking servo circuits. (check waveforms, voltages, and part values.) 3. Spindle driver circuit. 4. Optical pickup.	IC702 ③②pin	FE		1.7V
			IC702 ③③pin	TE		1.7V
			IC702 ②⑨pin	FOD	1.7V	1.7V
			IC702 ②⑦pin	TRD	1.7V	1.7V
			IC702 ③⑧pin	/RFDET	0V	3.4V
			TJ 701	RF		1.0 V
			IC702 ①⑦pin	STAT	3.3V	0V
			IC702 ③⑦pin	FBAL	1.7 ± 0.85V	1.7 ± 0.85V
E-08 E-0A	Focus or Tracking gain adjustment not completed in the specified time period.	1. Scratches or contaminants on disc surface. 2. Focus and Tracking servo circuit. (check waveforms, voltages, and part values.) 3. Optical pickup.	IC702 ③②pin	FE		1.7V
			IC702 ③③pin	TE		1.7V
			IC702 ③⑥pin	OFT	0V	0V

7 Measurements and Adjustments

Cautions:

- It is very dangerous to look at or touch the laser beam. (Laser radiation is invisible.) With the unit turned "ON", laser radiation is emitted from the pickup lens.
- Avoid exposure to the laser beam, especially when performing adjustments.

These units SL-HD510/310 are designed to operate on power supplied from the Amplifiers SE-HD510/310 through the Tuners ST-HD510/310. When connecting the unit to other system components, do not connect to the Amplifiers SE-HD510/310 directly. Be sure to connect these units through the Tuner ST-HD510/310. When operating the units SL-HD510/310 alone for testing and servicing, without having power supplied from the Amplifiers SE-HD510/310, use the following method.

7.1. Power Supply to This Unit alone

Apply 10V DC power to the section between TP402 (far side from rear panel of R441) and earth plate (E401). (As shown in Fig. 3.)

7.2. To Check Signals

Connect the oscilloscope or the speaker with built-in amplifier to the section between JK401-⑬ pin (Rch out) and earth plate (E401) (GND) as well as the section between JK401-⑮ pin (Lch out) and earth plate (E401) (GND) and check if the signals are outputting from this unit. (As shown in Fig. 3.)

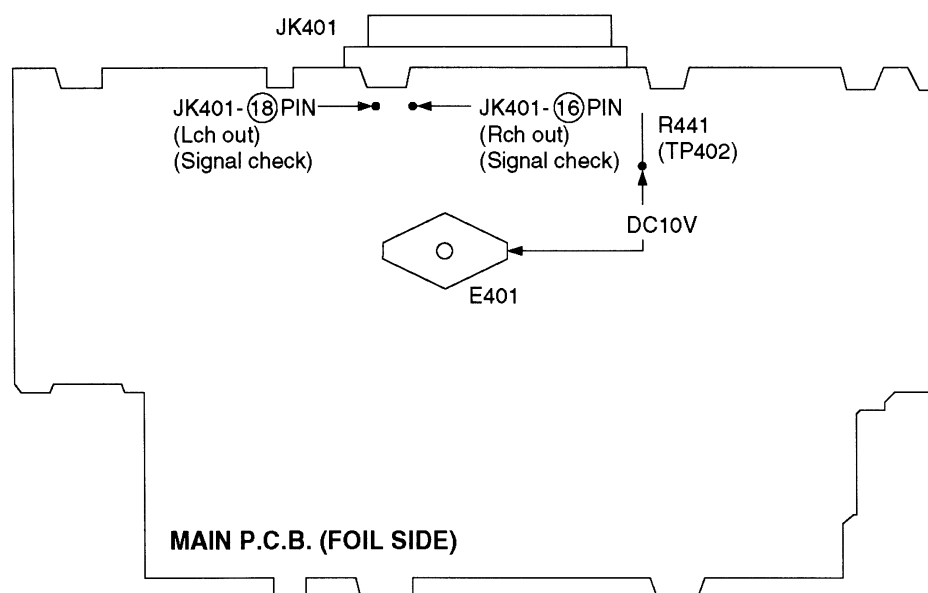
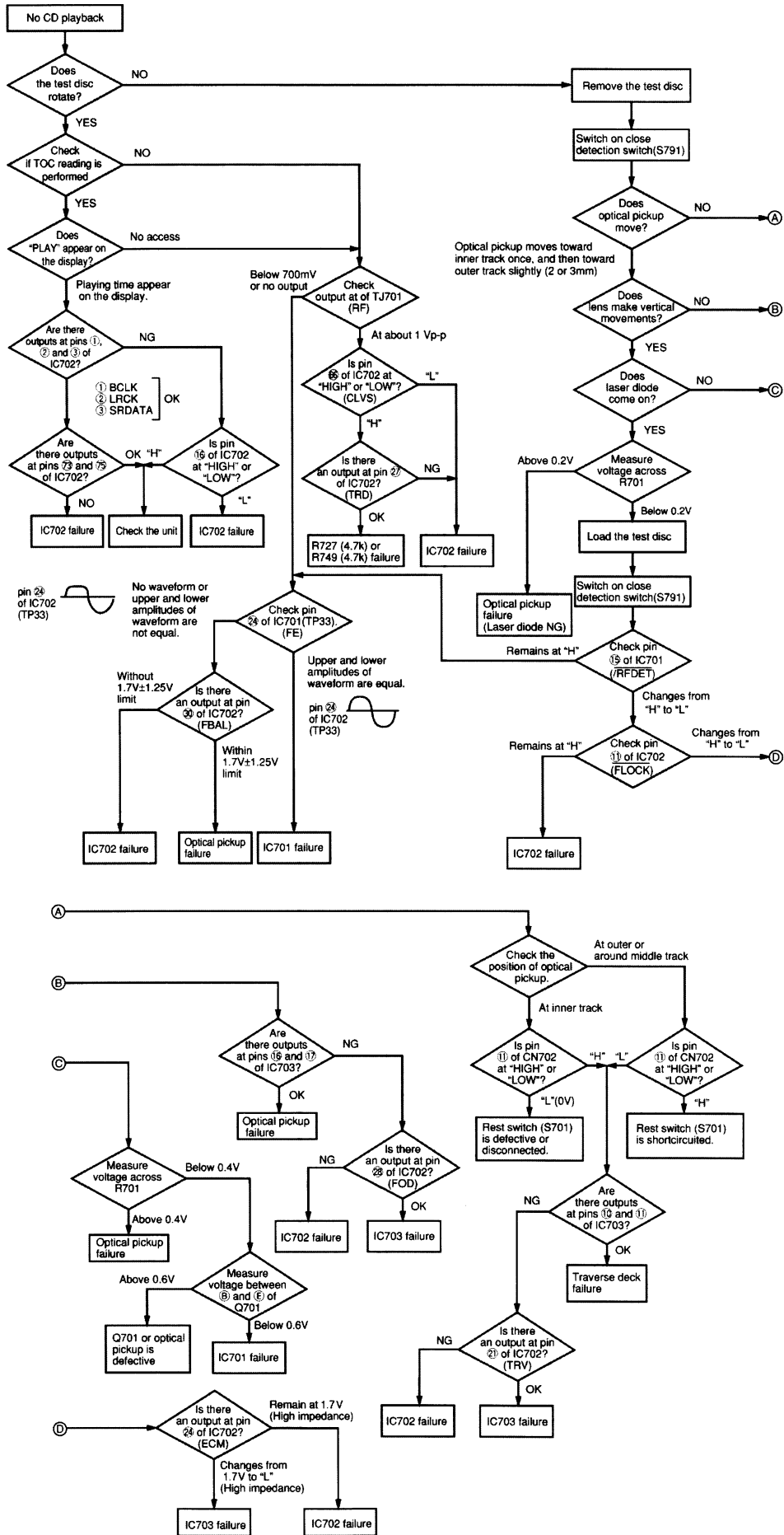
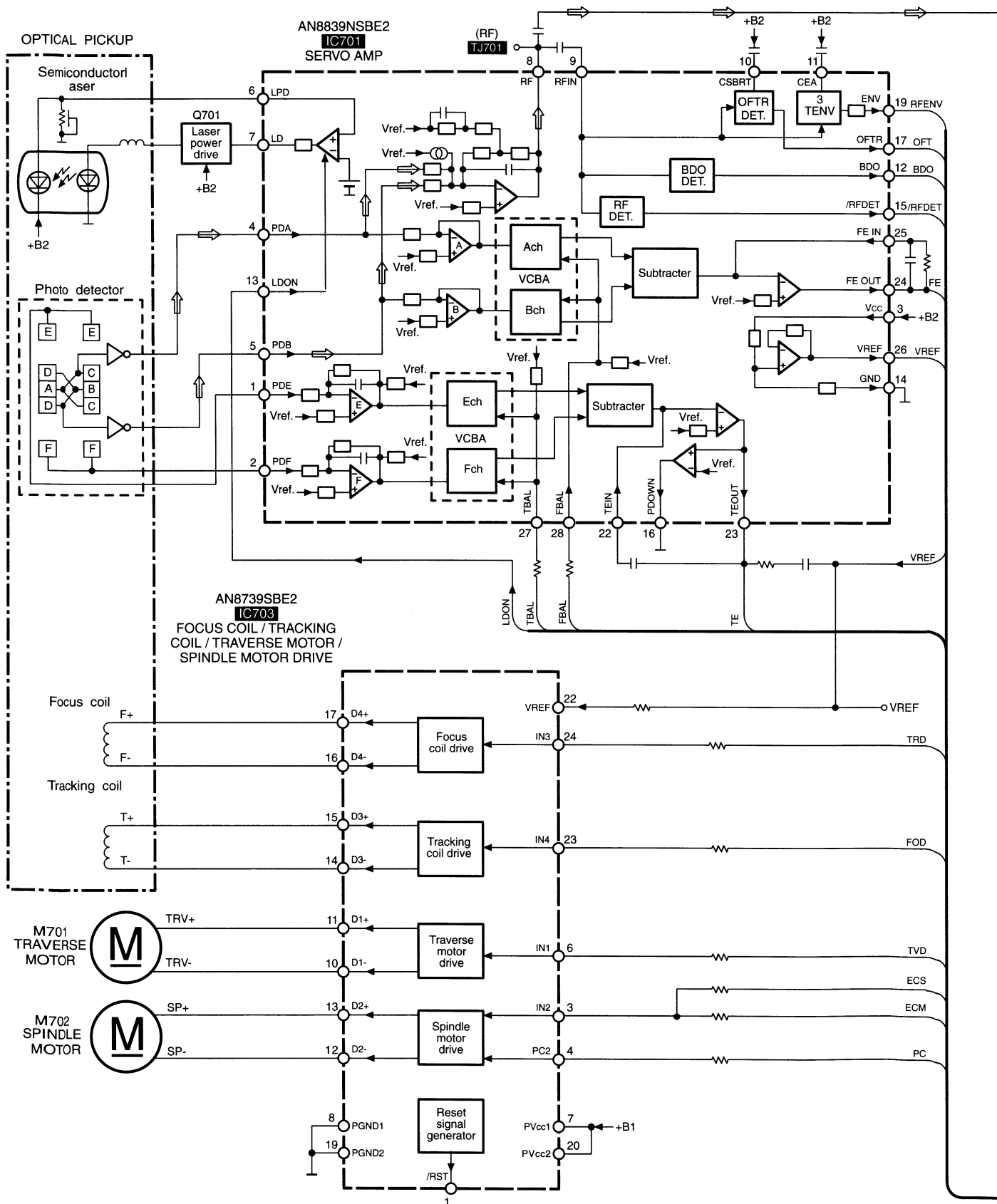


Fig. 3

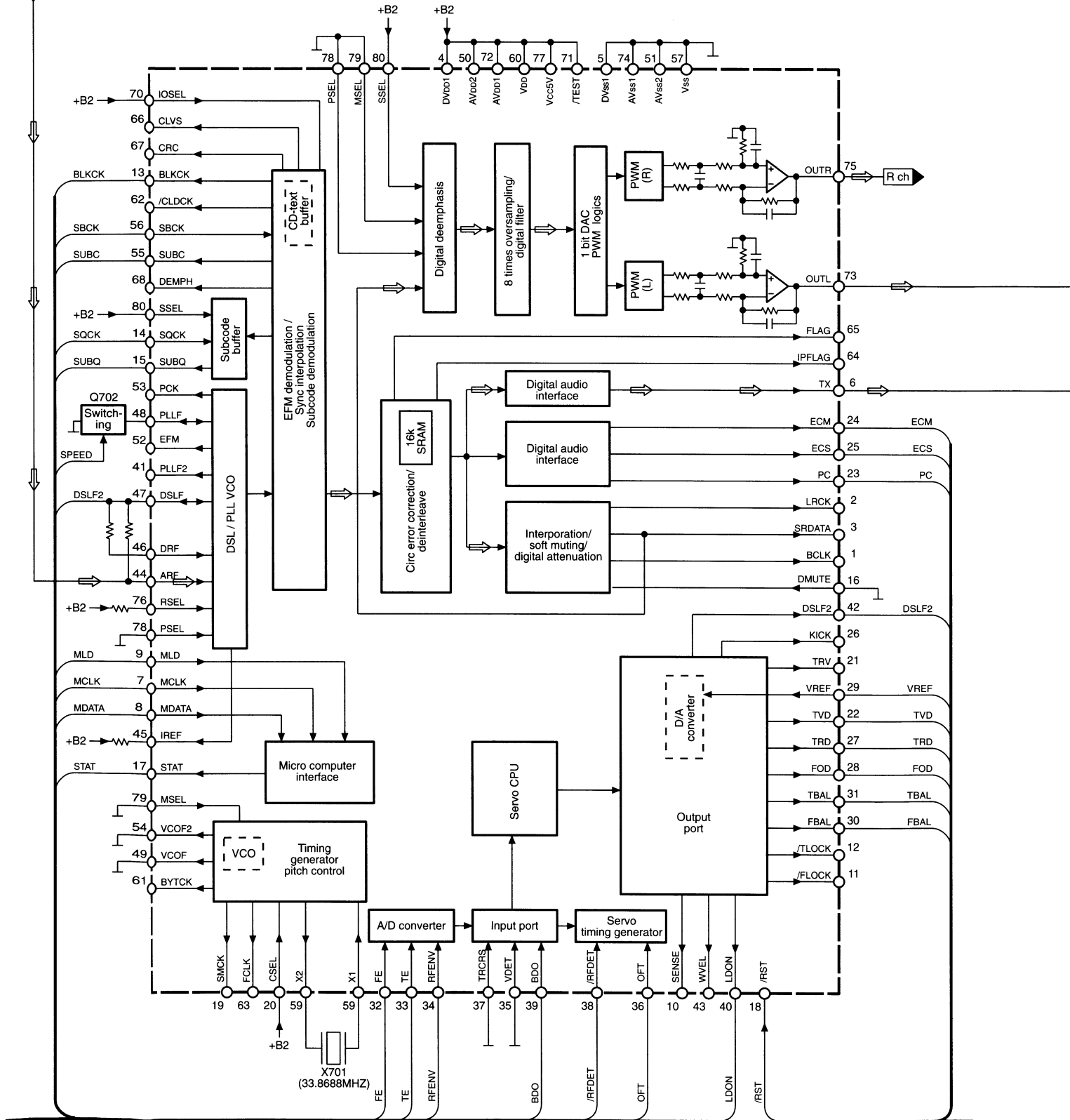
8 Troubleshooting Guide

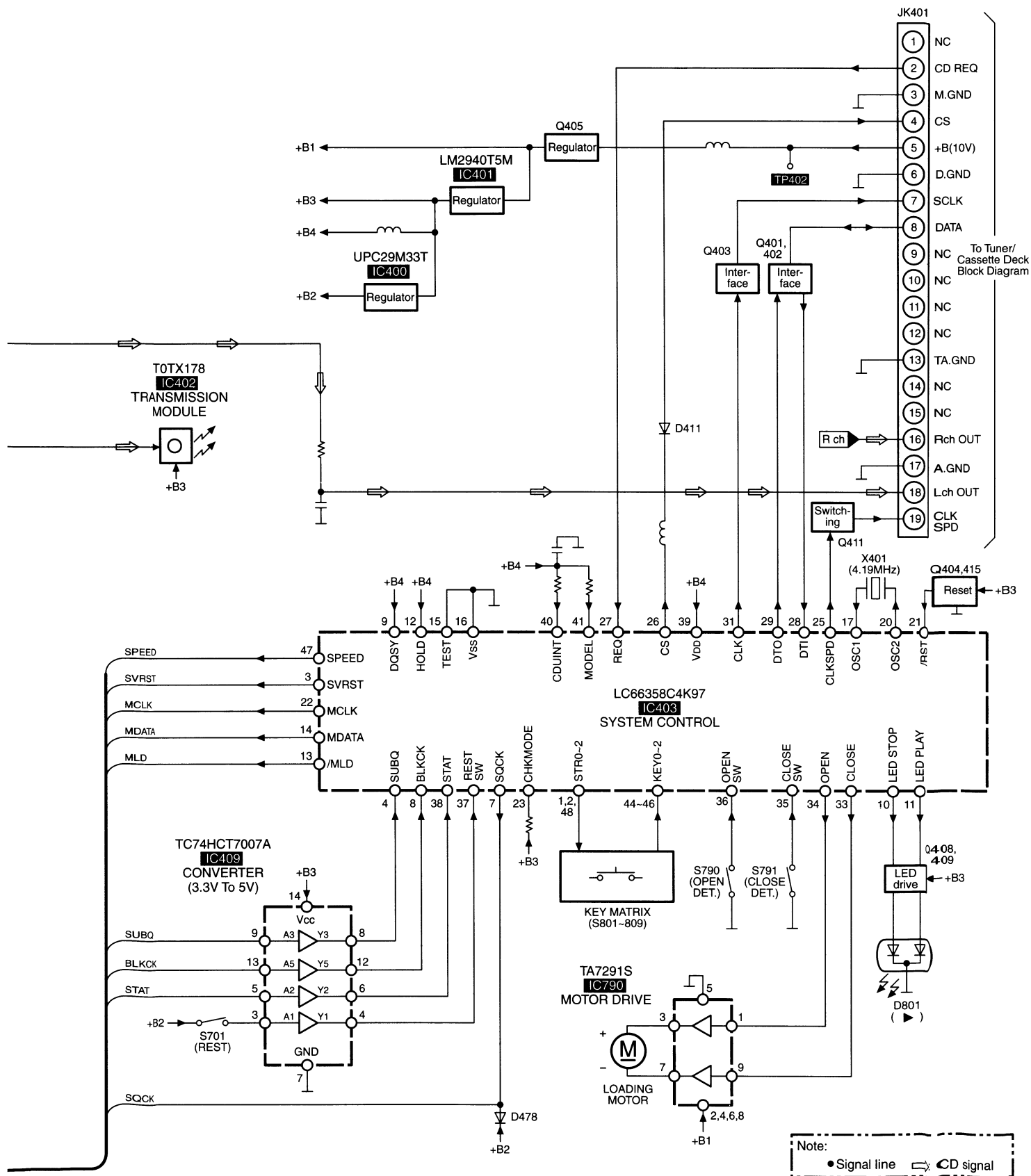


9 Block Diagram



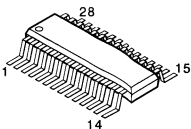
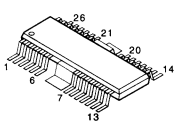
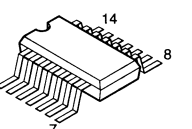
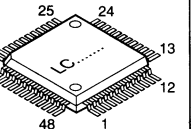
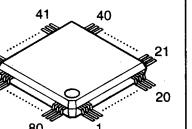
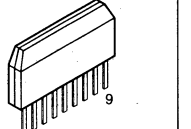
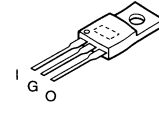
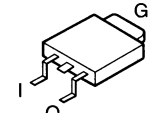
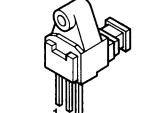
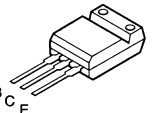
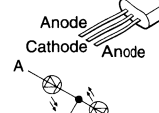
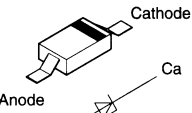
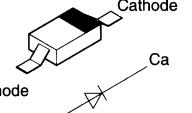
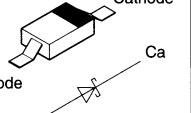
MN662790RSC
IC702
 SERVO PROCESSOR / DIGITAL SIGNAL PROCESSOR
 DIGITAL FILTER / D/A CONVERTER





10 Schematic Diagram Notes

10.1. Type Illustration of IC's, Transistors and Diodes

AN8839NSBE2 	AN8739SBE2 	TC74HCT7007A 	LC66358C4K97 	MN662790RSC 	TA7291S 
LM2940T5M 	UPC29M33T 	T0TX178 	2SD2137PQTA 	2SB709STX 2SC4081STX DTA143XUT106 DTC114YUT106 DTC143EUT106 DTC143XUA106	
SML79420C 	MA8082MTX MA8039LTX 	MA111TX 	MA728TX 		

10.2. Schematic Diagram Notes

This schematic diagram may be modified at any time with the development of new technology.

Notes:

- S701 : Rest position detect switch in "OFF" position. (It turns "ON" when optical pickup comes to innermost periphery)
- S790 : CD tray open detection switch.
- S791 : CD tray close detection switch.
- S801 : Stop (■) switch.
- S802 : Play (▶) switch.
- S803 : Pause (■) switch.
- S804 : CD tray open/close (▲ OPEN/CLOSE) switch.
- S805 : F. skip/ search (▶▶ / ▶▶) switch
- S806 : R. skip/ search (◀◀ / ◀◀) switch.
- S807 : CD text select (CD TEXT) switch.
- S808 : AI edit (AI EDIT) switch.
- S809 Scroll (SCROLL) Switch.
- Indicated voltage values are the standard values for the unit measured by the DC electronic circuit tester (high-impedance) with the chassis taken as standard. Therefore, there may exist some errors in the voltage values, depending on the internal impedance of the DC circuit tester.

No mark: CD STOP

() : CD play [1kHz, L+R, 0dB]

Important safety notice:

Components identified by $\triangle$ mark have special characteristics important for safety.

Furthermore, special parts which have purpose of fire-retardant (resistors), high-quality sound (capacitors), low-noise (resistors), etc. are used. When replacing any of components, be sure to use only manufacture's specified parts shown in the parts list.

Caution!

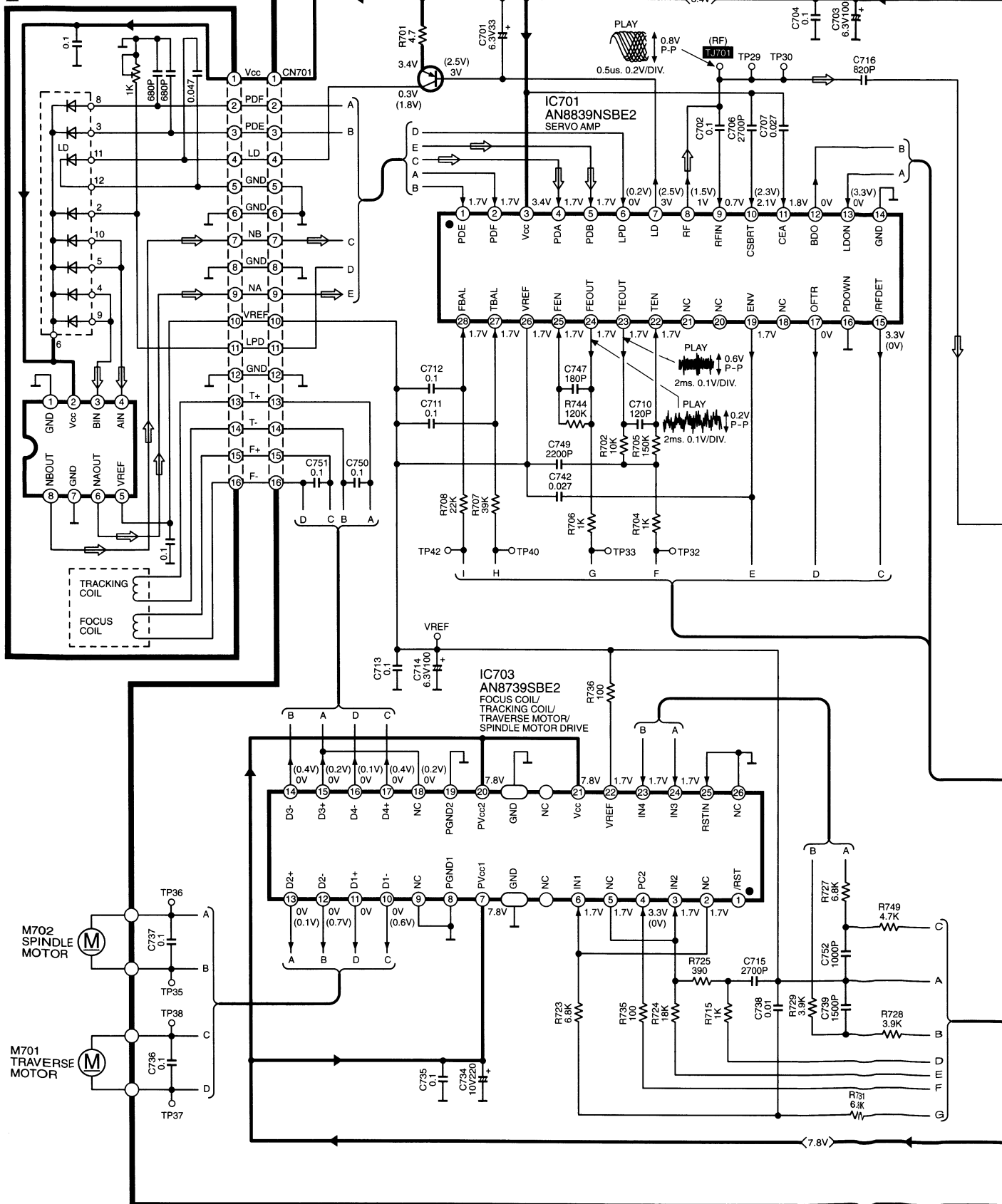
- IC and LSI are sensitive to static electricity.
- Secondary trouble can be prevented by taking care during repair.
- Cover the parts boxes made of plastics with aluminum foil.
- Ground the soldering iron.
- Put a conductive mat on the work table.
- Do not touch the legs of IC or LSI with the fingers directly.

Voltage and signal lines

- ➡ : Positive voltage line
- ⇒ : CD signal line

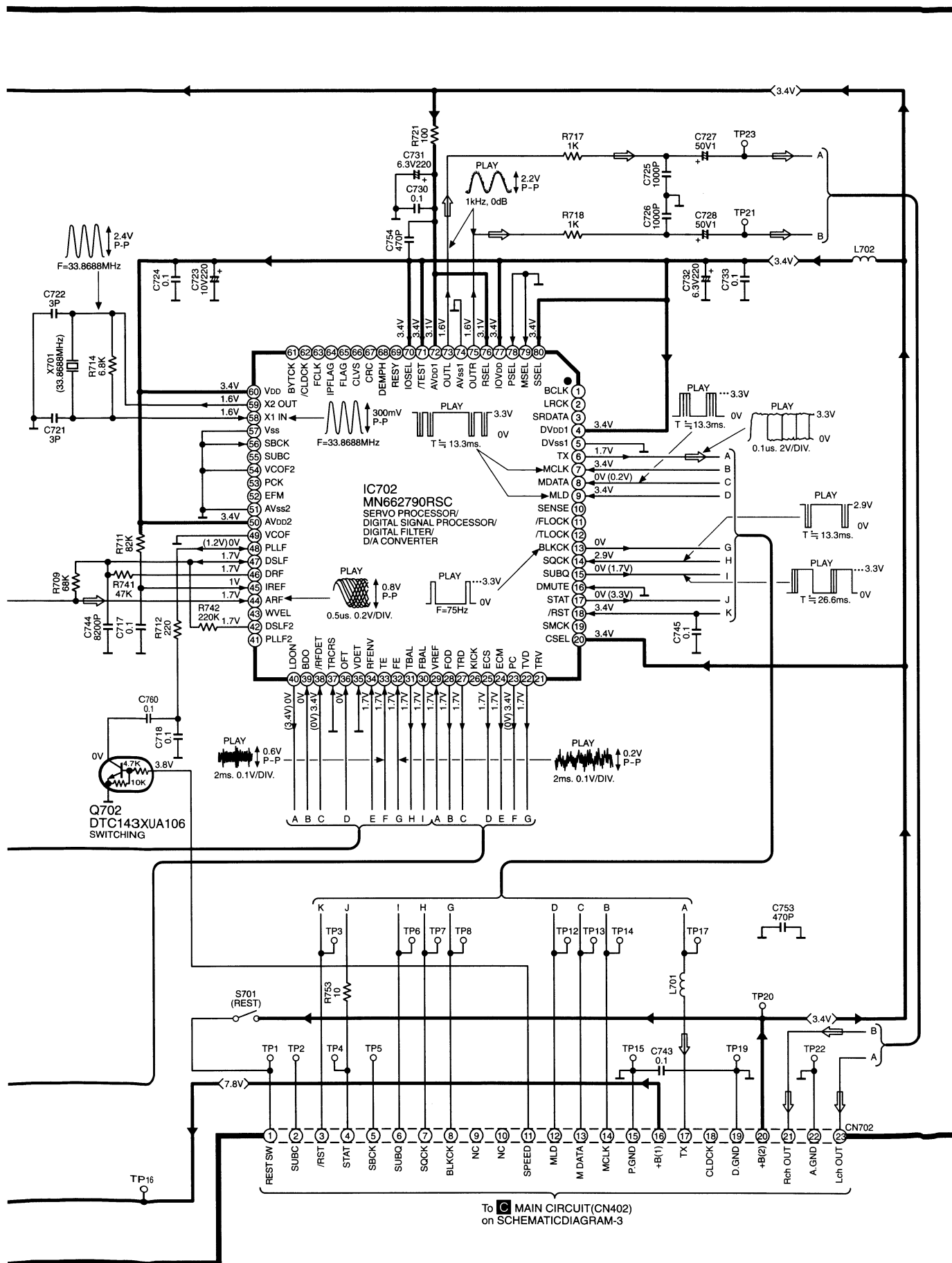
NOTE:
The number which noted at the connectors on the schematic diagram as "SCHEMATIC DIAGRAM-1" or "SCHEMATIC DIAGRAM-2" indicates the schematic diagram serial number located on the left corner in the schematic diagram.

→ : POSITIVE VOLTAGE LINE ⇨ : CD SIGNAL LINE



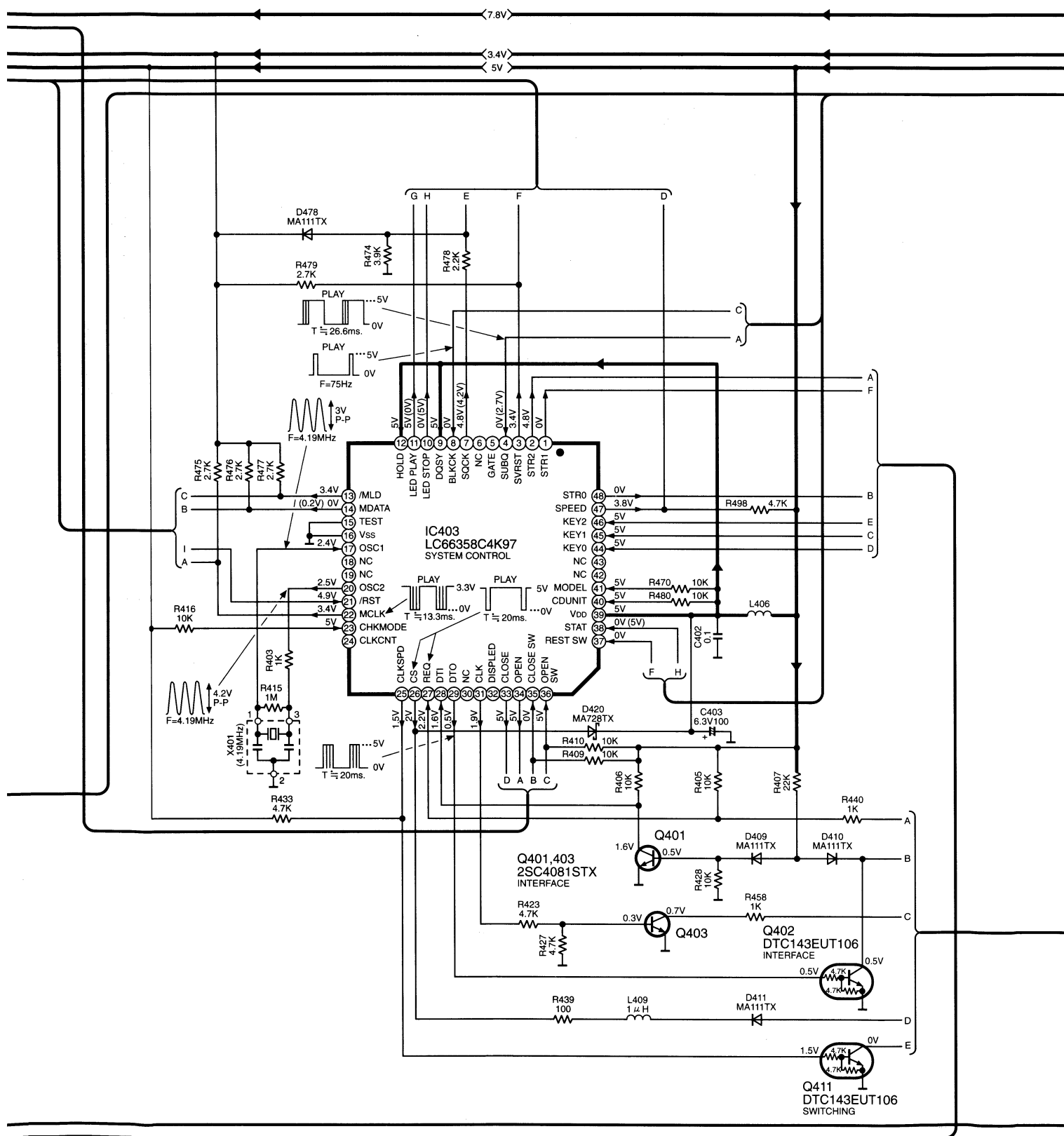
SCHEMATIC DIAGRAM-2

→ : POSITIVE VOLTAGE LINE ⇨ : CD SIGNAL LINE



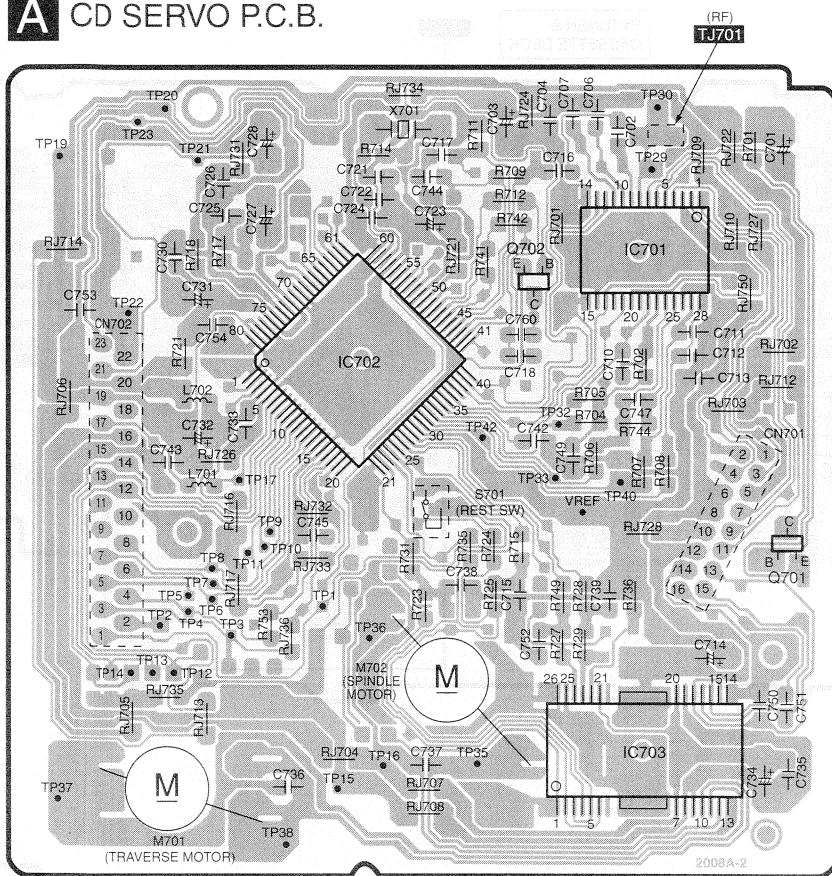
SCHEMATIC DIAGRAM-4

:POSITIVE VOLTAGE LINE



12 Printed Circuit Board Diagram

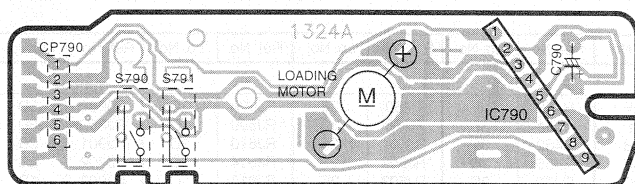
A CD SERVO P.C.B.



ELECTRICAL PARTS LOCATION

Ref. No.	Lo. No.	Ref. No.	Lo. No.
A CD SERVO P.C.B.			
IC701	2D	R754	1B
IC702	3B	RJ701	2C
IC703	4D	RJ702	3D
Q701	3D	RJ703	3D
Q702	2C	RJ704	4B
L701	3A	RJ705	4A
L702	3B	RJ706	3A
X701	1C	RJ707	4C
S701	3C	RJ708	5C
CN701	3D	RJ709	2D
CN702	3A	RJ710	2D
M701	4A	RJ712	3D
M702	4C	RJ713	4B
TP1	4B	RJ714	2A
TP2	4A	RJ716	4B
TP3	4B	RJ717	3B
TP4	4B	RJ721	2C
TP5	4B	RJ722	2D
TP6	3B	RJ724	1C
TP7	3B	RJ726	4B
TP8	3B	RJ727	2D
TP12	4A	RJ728	3D
TP13	4A	RJ731	2B
TP14	4A	RJ732	3B
TP15	4B	RJ734	1C
TP16	4B	RJ735	4A
TP17	3B	RJ750	2D
TP18	2A	C701	2D
TP19	2A	C702	2D
TP20	1A	C703	1C
TP21	2B	C704	1C
TP22	2A	C706	1C
TP23	1A	C707	1C
TP29	2D	C710	3D
TP30	1D	C711	2D
TP32	3C	C712	3D
TP33	3C	C713	3D
TP35	4C	C714	4D
TP36	4B	C715	4C
TP37	5A	C716	2C
TP38	5B	C717	2C
TP40	3D	C718	3C
TP42	3C	C721	2B
R701	2D	C722	2B
R702	3D	C723	2C
R704	3C	C724	2B
R705	3C	C725	2B
R706	3C	C726	2B
R707	3D	C727	2B
R708	3D	C728	2B
R709	2C	C730	2A
R711	2C	C731	2B
R712	2C	C732	3B
R714	2B	C733	3B
R715	3C	C734	4D
R717	2B	C735	4D
R718	2B	C736	4B
R721	3B	C737	4C
R723	4C	C738	4C
R724	3C	C739	4C
R725	4C	C742	3C
R727	4C	C743	3A
R728	4C	C744	2C
R729	4C	C745	3B
R731	3C	C747	3D
R735	3C	C749	3C
R736	4D	C750	4D
R741	2C	C751	4D
R742	2C	C752	4C
R744	3D	C753	2A
R749	4C	C754	2B
R753	3B	C760	2C

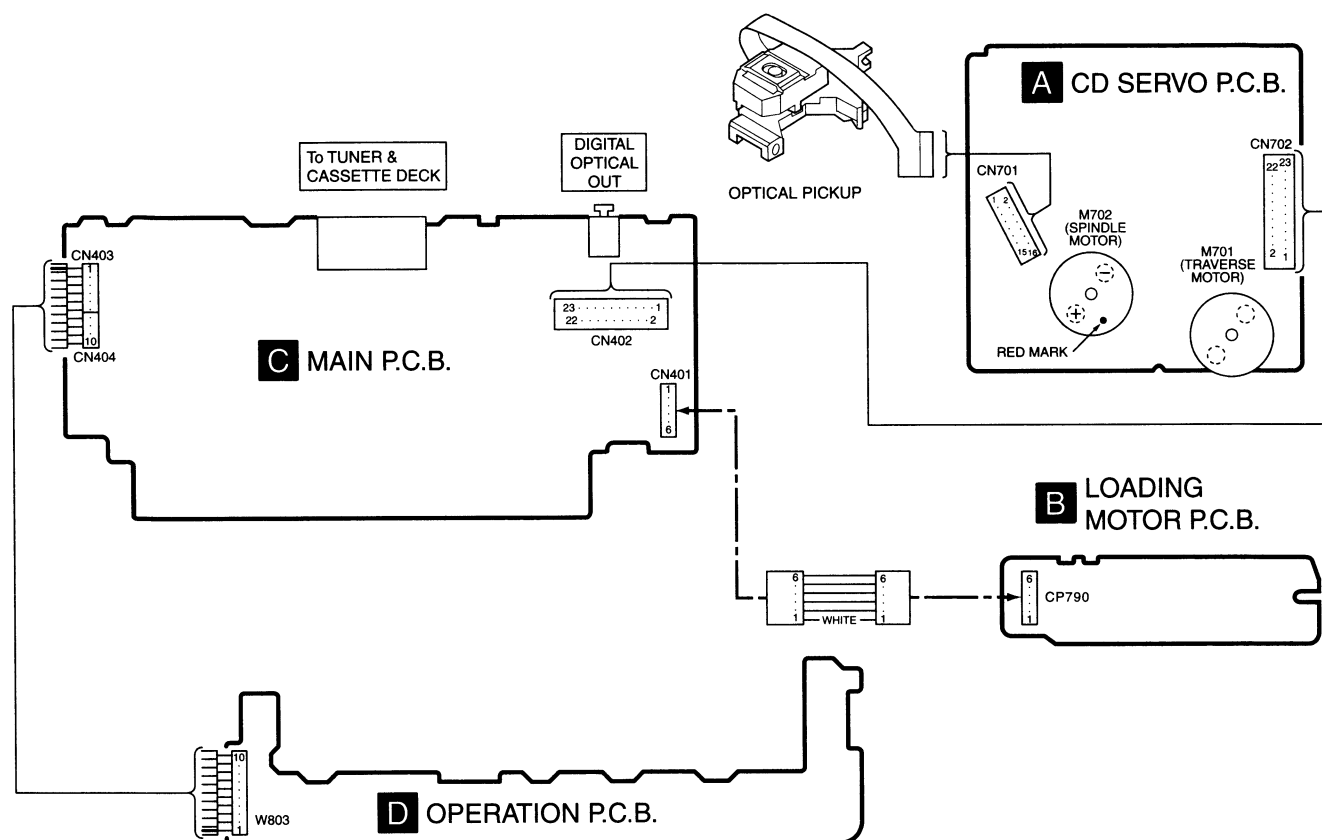
B LOADING MOTOR P.C.B.



B LOADING MOTOR P.C.B.

IC790	7D	CP790	7B
S790	7B	C790	7D
S791	7B		

13 Wiring Connection Diagram



14 Terminal Function of IC's

14.1. IC701 (AN8839NSBE2): SERVO AMP

Pin No.	Mark	I/O Division	Function
1	PDE	I	Tracking signal input terminal 1 (E ch)
2	PDF	I	Tracking signal input terminal 2 (F ch)
3	VCC	I	Power supply terminal
4	PDA	I	Focus signal input terminal 1 (A ch)
5	PDB	I	Focus signal input terminal 2 (B ch)
6	LPD	I	APC amp. input terminal
7	LD	O	APC amp. output terminal("L": laser ON)
8	RF	O	RF adding output terminal
9	RFIN	I	AGC input terminal
10	CSBRT	I	OFTR capacitor connection terminal
11	CEA	I	HPF-AMP capacitor connection terminal
12	BD0	O	Drop out output terminal("H": Drop out)
13	LDON	I	Laser ON signal input terminal("H": laser ON)
14	GND	—	GND terminal
15	/RFDET	O	RF detection signal output terminal("H": detection)
16	PDOWN	—	Connected to GND
17	OFTR	O	Off track signal output terminal ("H": off track)
18	NC	—	—
19	ENV	O	RF envelope signal output terminal

Pin No.	Mark	I/O Division	Function
20	NC	—	—
21	NC	—	—
22	TEN	I	Tracking error amp input terminal
23	TEOUT	O	Tracking error amp. output terminal
24	FEOUT	O	Focus error amp. output terminal
25	FEN	I	Focus error amp. input terminal
26	VREF	O	VREF output terminal
27	TBAL	I	Tracking balance adj. input terminal
28	FBAL	I	Focus balance adj. input terminal

14.2. IC702 (MN662790RSA): SERVO PROCESSOR/DIGITAL SIGNAL PROCESSOR/DIGITAL FILTER/D-A CONVERTER

Pin No.	Mark	I/O Division	Function
1	BCLK	O	Serial data bit clock output terminal(Not used, open)
2	LRCK	O	L/R discriminating signal output terminal(Not used, open)
3	SRDATA	O	Serial data output terminal(Not used, open)
4	DV _{DD1}	I	Power supply (digital circuit) terminal
5	DV _{SS1}	—	GND (digital circuit) terminal

Pin No.	Mark	I/O Division	Function
6	TX	O	Digital audio interface signal output terminal
7	MCLK	I	Microcomputer command clock signal input terminal(Latching on the data by rising edge)
8	MDATA	I	Microcomputer command data signal input terminal
9	MLD	I	Microcomputer command load signal input terminal
10	SENSE	O	Sense signal output terminal (OFT, FESL, NACEND, NAJEND, DATA, SFG) (Not used, open)
11	/FLOCK	O	Focus servo lead-in signal output terminal ("L": lead-in) (Not used, open)
12	/TLOCK	O	Tracking servo lead-in signal output terminal ("L": lead-in) (Not used, open)
13	BLKCK	O	Sub-code block clock signal output terminal (fBLKCK=75 Hz: normal play)
14	SQCK	I	Sub-code Q resistor external clock signal input terminal
15	SUBQ	O	Sub-code Q code output terminal
16	DMUTE	I	Muting input terminal ("L": mute) (Connected to GND)
17	STAT	O	Status signal output terminal (CRC, CUE, CLVS, TTSTOP, FCLV, SQOK)
18	/RST	O	Reset input terminal
19	SMCK	O	Not used, open
20	CSEL	O	Power supply terminal
21	TRV	O	Traverse forced feed terminal(Not used, open)
22	TVD	O	Traverse drive signal output terminal
23	PC	O	Spindle motor drive signal output terminal ("L": ON)
24	ECM	O	Spindle motor drive signal output terminal (Forced mode)
25	ECS	O	Spindle motor drive signal output terminal (Servo error signal)
26	KICK	O	Kick pulse output terminal (Not used, open)
27	TRD	O	Tracking drive signal output terminal
28	FOD	O	Focus drive signal output terminal
29	VREF	I	VREF input terminal
30	FBAL	O	Focus balance adj. output terminal
31	TBAL	O	Tracking balance adj. output terminal
32	FE	I	Focus error signal input terminal(analog input)
33	TE	I	Tracking error signal input terminal(analog input)
34	RFENV	I	RF envelope signal input terminal
35	VDET	I	Oscillation det. signal input terminal("H": det.) (Connected to GND)
36	OFT	I	Off track signal input terminal("H": off track)
37	TRCRS	I	Track cross signal input terminal(Connected to GND)
38	/RFDET	I	RF detection signal input terminal("L": detection)
39	BDO	I	Dropout signal input terminal ("H": dropout)
40	LDON	O	Laser ON signal output terminal ("H": ON)
41	PLL2	—	PLL loop filter 2 terminal(Not used, open)
42	DSL2	—	DSL loop filter 2 terminal
43	WVEL	O	Double velocity status signal output terminal ("H": double) (Not used, open)
44	ARF	I	RF signal input terminal

Pin No.	Mark	I/O Division	Function
45	IREF	I	Reference current input terminal
46	DRF	I	DSL bias input terminal
47	DSL2	I/O	DSL loop filter terminal
48	PLL2	I/O	PLL loop filter terminal
49	VCOF	—	VCO loop filter terminal(Not used, connected to GND)
50	AV _{DD2}	I	Power supply (analog circuit) terminal
51	AV _{SS2}	—	GND (analog circuit) terminal
52	EFM	O	EFM signal output terminal(Not used, open)
53	PCK	O	PLL extract clock output terminal (fPCK=4.321 MHz: normal play)(Not used, open)
54	VCOF2	—	VCO loop filter 2 terminal(Connected to GND)
55	SUBC	O	Sub-code serial data output terminal(Not used, open)
56	SBCK	I	Sub-code serial data clock input terminal (Connected to GND)
57	V _{SS}	—	GND terminal
58	X1 IN	I	Crystal oscillator input terminal(f=33.8688 MHz)
59	X2 OUT	O	Crystal oscillator output terminal(f=33.8688 MHz)
60	V _{DD}	I	Power supply (oscillation circuit) terminal
61	BYTCK	O	Byte clock output terminal (Not used, open)
62	/CLDCK	O	Sub-code frame clock signal output terminal (fCLDCK=7.35 kHz: normal play) (Not used, open)
63	FCLK	O	Crystal frame clock signal output terminal (fCLK=7.35 kHz, double velocity 14.7 kHz) (Not used, open)
64	IPFLAG	O	Data error flag output terminal("H": interpolation) (Not used, open)
65	FLAG	O	Flag output terminal (Not used, open)
66	CLVS	O	Spindle servo phase synchro signal output terminal ("H": CLV, "L": Rough servo) (Not used, open)
67	CRC	O	Sub-code CRC check output terminal("H": ON, "L": NG) (Not used, open)
68	DEMPH	O	De-emphasis ON signal output terminal ("H": ON) (Not used, open)
69	RESY	O	Re-synchronizing signal of frame sync.output terminal (Not used, open)
70	IOSEL	I	Power supply (digital circuit) terminal
71	/TEST	I	Test input terminal (Connected to power supply)
72	AV _{DD1}	I	Power supply (analog circuit) terminal
73	OUTL	O	L ch audio signal output terminal
74	AV _{SS1}	—	GND terminal
75	OUTR	O	R ch audio signal output terminal
76	RSEL	I	RF signal polarity designation input terminal (Connected to power supply)
77	IOVDD	I	Crystal oscillator frequency designation input terminal(Connected to power supply)
78	PSEL	I	Test input terminal(Usually:"H") (Connected to GND)
79	MSEL	I	Output frequency switching terminal of SMAC("H":SMCK=8.4672MHz, "L":SMCK=4.2336MHz) (Connected to GND)
80	SSEL	I	Output mode switching terminal of SUBQ("H":Q-code buffer using mode) (Connected to power supply)

14.3. IC703(AN8739SBE2): FOCUS COIL/TRACKING COIL/ TRAVERSE MOTOR/ SPINDLE MOTOR DRIVE

Pin No.	Mark	I/O Division	Function
1	/RST	—	Reset output terminal (Not used, open)
2	NC	—	Not used
3	IN2	I	Motor driver (2) input terminal
4	PC2	I	PC2 (power cut) input terminal
5	NC	—	Not used
6	IN1	I	Motor driver (1) input terminal
7	PVCC1	I	Power supply (for driver) terminal
8	PGND1	—	GND (for driver) terminal (1)
9	NC	—	Not used
10	D1-	O	Traverse motor driver (1) output terminal (-)
11	D1+	O	Traverse motor driver (1) output terminal (+)
12	D2-	O	Spindle motor driver (2) output terminal (-)
13	D2+	O	Spindle motor driver (2) output terminal (+)
14	D3-	O	Tracking coil signal output terminal (-)
15	D3+	O	Tracking coil signal output terminal (+)
16	D4-	O	Focus coil signal output terminal (-)
17	D4+	O	Focus coil signal output terminal (+)
18	NC	—	Not used
19	PGND2	—	GND (for driver) terminal (2)
20	PVCC2	I	Power supply (for driver) terminal (2)
21	VCC	I	Power supply terminal
22	VREF	I	Reference voltage input terminal
23	IN4	I	Motor driver (4) input terminal
24	IN3	I	Motor driver (3) input terminal
25	RSTIN	I	Reset input terminal (Connected to GND)
26	NC	—	Not used, connected to GND

14.4. IC403(LC66358C4K97): SYSTEM CONTROL

Pin No.	Mark	I/O Division	Function
1	STR1	O	Key switch 1 det. output terminal
2	STR2	O	Key switch 2 det. output terminal
3	SVRST	O	Reset signal output terminal of servo IC (IC702)
4	SUBQ	I	Sub-code data input terminal
5	GATE	O	Select signal output terminal (Not used, open)
6	NC	—	Not used, open
7	SQCK	O	Sub-code register clock output terminal
8	BLKCK	I	Sub-code block signal input terminal
9	DQSY	I	Reading permission terminal of data (Not used, connected to power supply)
10	LED STOP	O	LED drive signal output terminal
11	LED PLAY	O	
12	HOLD	I	Not used, connected to power supply
13	/MLD	O	Command load signal terminal to IC702
14	MDATA	O	Command data signal terminal to IC702
15	TEST	—	Not used, connected to GND
16	V _{SS}	—	GND terminal
17	OSC1	I	Crystal oscillator connected terminal (f=4.19MHz)

Pin No.	Mark	I/O Division	Function
18	NC	—	Not used, open
19			
20	OSC2	O	Crystal oscillator connected terminal (f=4.19MHz)
21	/RST	I	Reset signal input terminal
22	MCLK	O	Command clock output terminal to IC702
23	CHK MODE	I	Not used (Connected to power supply through register)
24	CLK CNT	O	Clock control signal output terminal (Not used, open)
25	CLK SPD	O	Communication clock velocity select input terminal
26	CS	O	Communication request receiving signal terminal to FL drive/ system control IC
27	REQ	I	Communication request signal terminal to FL drive/ system control IC
28	DTI	I	Data input terminal from FL drive/ system control IC
29	DTO	O	Data output terminal to FL drive/ system control IC
30	NC	—	Not used, open
31	CLK	O	Clock terminal to FL drive/ system control IC
32	DISPLE D	O	LED drive signal output terminal (Not used, open)
33	CLOSE	O	Loading motor "CLOSE" command signal output terminal
34	OPEN	O	Loading motor "OPEN" command signal output terminal
35	CLOSE SW	I	Disc tray "CLOSE" det. switch signal input terminal
36	OPEN SW	I	Disc tray "OPEN" det. switch signal input terminal
37	REST SW	I	Rest position det. signal input terminal
38	STAT	I	Status signal input terminal
39	V _{DD}	I	Power supply input terminal
40	CDUNIT	I	Connected to power supply through register
41	MODEL	I	
42	NC	—	Not used, open
43	NC	—	
44	KEY0	I	Key switch 0 det. input terminal
45	KEY1	I	Key switch 1 det. input terminal
46	KEY2	I	Key switch 2 det. input terminal
47	SPEED	O	PLL filter of CD unit select output terminal
48	STR0	O	Key switch 0 det. output terminal

15 Replacement Parts List

Notes:

*Important safety notice:

Components identified by Δ mark have special characteristics important for safety.

Furthermore, special parts which have purposes of fire-retardant (resistors), high-quality sound (capacitors), low-noise (resistors), etc. are used.

When replacing any of components, be sure to use only manufacture's specified parts shown in the parts list.

*Warning: This product uses a laser diode. Refer to caution statements.

*ACHTUNG: Die Lasereinheit nicht zerlegen. Die Lasereinheit darf nur gegen eine vom Hersteller spezifizierte Einheit ausgetauscht werden.

*Capacity values are in microfarads (μ F) unless specified otherwise, P=Pico-farads (pF) F=Farads (F)

*Resistance values are in ohms, unless specified otherwise, 1K=1,000 (OHM), 1M=1,000K (OHM)

*The markings (RTL) indicate that the Retention Time is limited for these items. After the discontinuation of these assemblies in production, the items will continue to be available for a specific period of time. The retention period of availability is dependant on the type of assembly, and in accordance with the laws governing part and product retention. After the end of this period, the assembly will no longer be available.

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
1	RHD30007-S	SCREW	4	
2	RKM0413-N	CABINET	1	
3	XTBS3+8JFZ1	SCREW	7	
4	REX0976	CONNECTOR ASS'Y (6P)	1	
5	REZ1056-2	FFC (23P)	1	
6	RGK1229-N	TRAY ORNAMENT	1	
7	RKA0114-K	FOOT	4	
7-1	RKA0083-K	CUSHION	4	
8	XTB3+5JFZ	SCREW	4	
9	RGG0175-N	FRONT PANEL	1	HD310
9	RGG0175A-N	FRONT PANEL	1	HD510
10	RGPO776-N	SUB PANEL	1	
11	RGU1841-N	BUTTON	1	HD310
11	RGU1859-N	BUTTON	1	HD510
12	RGU1843-N	BUTTON	1	
13	XTBS26+8J	SCREW	8	
14	XTB3+12JFZ	SCREW	6	
15	XTB3+8JFZ	SCREW	4	
16	RGL0482-Q	INDICATOR	1	HD310
101	RFKJXDT07-K	LOADING CHASSIS ASS'Y	1	
101-1	RDG0142	SLADING GEAR	1	
101-2	RDG0193	LOADING GEAR (1)	1	
101-3	RDP0065	PULLEY GEAR	1	
102	REM0019	LOADING MOTOR ASS'Y	1	
104	RGQ0144-K	DISC TRAY	1	
105	RAE0152Z-1	TRAVERSE DECK ASS'Y	1	
105-1	SHGD113-1	FLOATING RUBBER	3	
105-2	SNSD38	SCREW	2	
105-3	RAF0150A-1	OPTICAL PICKUP	1	Δ
105-4	RDG0247	DRIVE GEAR	1	
105-5	RDG0248	INTERMEDIATE GEAR	1	
105-6	RXQ0339	TRAVERSE MOTOR	1	
105-7	RXQ0304-1	PLATE	1	
105-8	XQN17+CG5	SCREW	1	

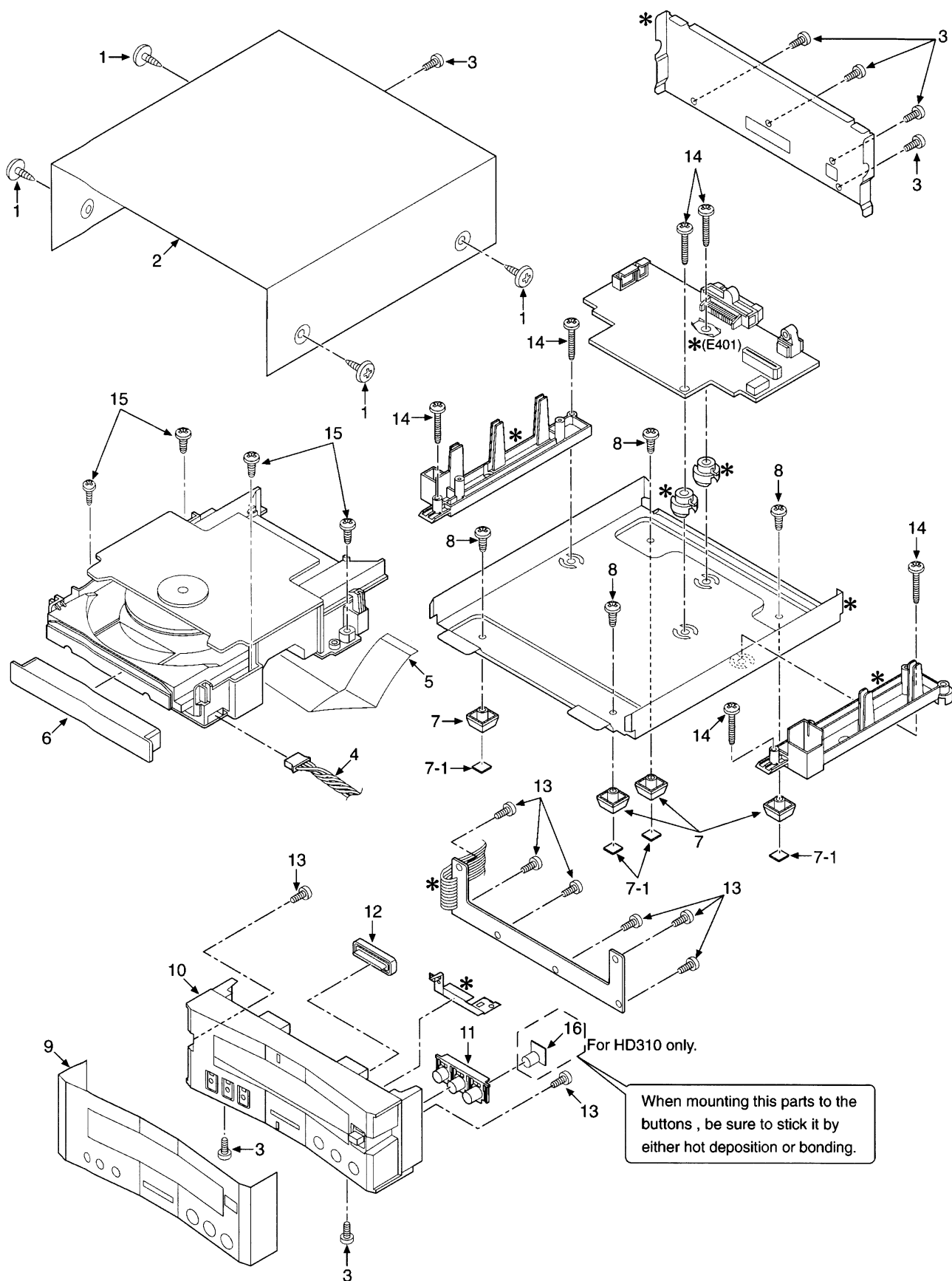
Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
105-9	XQN2+CQ5	SCREW	1	
105-10	XQS17+A35FZ	SCREW	2	
106	RMS0350-1	PIN (B)	1	
107	RMS0627	PIN (A)	1	
108	RME0109	FLOATING SPRING (1)	2	
109	RME0142	FLOATING SPRING (2)	1	
110	RMR0698-K1	TRAVERSE CHASSIS	1	
111	XTV2+6G	SCREW	2	
112	RME0063	LOCK LEVER SPRING	1	
113	RMM0079-1	DRIVE GEAR (A)	1	
114	RML0178-1	LOCK LEVER	1	
115	RFKNLP440-K	DRIVE RUCK ASS'Y	1	
116	RHD20009-1	SCREW	1	
117	RME0087	SPRING	1	
118	RML0349	CONVERSION LEVER	1	
119	RMM0059-1	DRIVE GEAR (B)	1	
120	RMR0334	MAGNET HOLDER	1	
121	RHM245ZA	MAGNET	1	
122	RXQ0380	DISC HOLDER	1	
123	XTN26+6G	SCREW	3	
124	RMA0793-1	DISC CLAMPER ASS'Y	1	
125	XYN2+F6FZ	SCREW	2	
126	RMG0158	BELT	1	
127	XTN2+6G	SCREW	1	
C401	ECUV1H102KBN	50V 1000P	1	
C402	ECUVNE104ZFN	25V 0.1U	1	
C403	ECEA0JKS101	6.3V 100U	1	
C405	ECUVNE104ZFN	25V 0.1U	1	
C406	ECEA1HKS3R3	50V 3.3U	1	
C409	ECUV1E103ZFN	25V 0.01U	1	
C410	ECA1CM471	16V 470U	1	
C412,13	ECUV1E103ZFN	25V 0.01U	2	
C416	ECEA1AKS220	10V 22U	1	
C419	ECEA1AKS221	6.3V 220U	1	
C420	ECEA1AKS221	10V 220U	1	
C425	ECUV1E103ZFN	25V 0.01U	1	
C426	ECUV1H101JCN	50V 100P	1	
C428	ECUVNE104ZFN	25V 0.1U	1	
C467	ECUV1C474ZFN	16V 0.47U	1	
C468	ECEA1AKS221	6.3V 220U	1	
C493,94	ECUV1H102KBN	50V 1000P	2	
C499	ECUV1H102KBN	50V 1000P	1	
C701	ECEA0JKA330I	6.3V 33U	1	
C702	ECUVNE104MBN	16V 0.1U	1	
C703	ECEA0JKS101	6.3V 100U	1	
C704	ECUVNE104MBN	16V 0.1U	1	
C706	ECUV1H272KBN	50V 2700P	1	
C707	ECUV1E273KBN	25V 0.027U	1	
C710	ECUV1H121KCN	50V 120P	1	
C711,12	ECUVNE104ZFN	25V 0.1U	2	
C713	ECUVNE104MBN	16V 0.1U	1	
C714	ECEA0JKS101	6.3V 100U	1	
C715	ECUV1H272KBN	50V 2700P	1	
C716	ECUV1H821KBN	50V 820P	1	
C717	ECUVNE104ZFN	25V 0.1U	1	
C718	ECUV1E104KBN	25V 0.1U	1	
C721,22	ECUV1H030CCN	50V 3P	2	
C723	ECEA1AKS221	10V 220U	1	
C724	ECUVNE104MBN	16V 0.1U	1	
C725,26	ECUV1H102KBN	50V 1000P	2	
C727,28	ECEA1HKS010	50V 1U	2	
C730	ECUVNE104ZFN	25V 0.1U	1	
C731,32	ECEA1AKS221	6.3V 220U	2	
C733	ECUVNE104MBN	16V 0.1U	1	
C734	ECEA1AKS221	10V 220U	1	
C735-37	ECUVNE104ZFN	25V 0.1U	3	
C738	ECUV1H103KBN	50V 0.01U	1	

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
C739	ECUV1H152KBN	50V 1500P	1	
C742	ECUV1E273KBN	25V 0.027U	1	
C743	ECUVNE104ZFN	25V 0.1U	1	
C744	ECUV1E822KBN	25V 8200P	1	
C745	ECUV1E104KBN	25V 0.1U	1	
C747	ECUV1H181KCN	50V 180P	1	
C749	ECUV1H222KBN	50V 2200P	1	
C750,51	ECUVNE104MBN	16V 0.1U	2	
C752	ECUV1H102KBN	50V 1000P	1	
C753	ECUV1H471KBM	50V 470P	1	
C754	ECUV1H471KBN	50V 470P	1	
C760	ECUV1E104KBN	25V 0.1U	1	
C790	ECA1AKF820	10V 82U	1	
CN401	RJP6G18ZA	CONNECTOR (6P)	1	
CN402	RJS1A6823	CONNECTOR (23P)	1	
CN403	RJS1A6606	CONNECTOR (6P)	1	
CN404	RJS1A6604	CONNECTOR (4P)	1	
CN701	RJU035T016-1	CONNECTOR (16P)	1	
CN702	RJS1A6723-1Q	CONNECTOR (23P)	1	
CP790	RJP6G17ZA	CONNECTOR (6P)	1	
D404	MA8082M	DIODE	1	△
D405	MA8039LTX	DIODE	1	
D409-11	MA111TX	DIODE	3	
D420	MA728TX	DIODE	1	
D478	MA111TX	DIODE	1	
D801	SML79420C	LED	1	
IC400	UPC29M33T	IC	1	△
IC401	LM2940T5	IC	1	△
IC402	T0TX178	IC	1	
IC403	LC66358C4K97	IC	1	
IC409	TC74HCT7007A	IC	1	
IC701	AN8839NSBE2	IC	1	
IC702	MN66279ORSC	IC	1	
IC703	AN8739SBE2	IC	1	
IC790	TA7291S	IC	1	
JK401	RJT065K19	SYSTEM CONNECTOR (19P)	1	
L402	RLBN300AV-W	COIL	1	
L406	RLBN601V-W	COIL	1	
L408	RLBN601V-W	COIL	1	
L409	RLQPIROKT1-Y	COIL	1	
L701,02	RLBN102V-Y	COIL	2	
P2	RPG4718	PACKING CASE (CD)	1	
P3	RPN1266	CUSHION	1	
P6	SPP740-1	PROTECTION BAG (AMPLIFIER)	1	
PCB1	REP2772A-N	SERVO P.C.B.	1	(RTL)
PCB2	REP1960A	LOADING MOTOR P.C.B.	1	(RTL)
PCB3	REP2773C-M	MAIN P.C.B.	1	(RTL)
PCB4	REP2959A-S	OPERATION P.C.B.	1	(RTL)
Q401	2SC4081STX	TRANSISTOR	1	
Q402	DTC143EUT106	TRANSISTOR	1	
Q403	2SC4081STX	TRANSISTOR	1	
Q404	DTC114YUT106	TRANSISTOR	1	
Q405	2SD2137PQTA	TRANSISTOR	1	△
Q408,09	DTA143XUT106	TRANSISTOR	2	
Q411	DTC143EUT106	TRANSISTOR	1	
Q415	2SC4081STX	TRANSISTOR	1	
Q701	2SB709S	TRANSISTOR	1	
Q702	DTC143XUA106	TRANSISTOR	1	
R403	ERJ6GEYJ102V	1/10W 1K	1	
R405,06	ERJ6GEYJ103V	1/10W 10K	2	
R407	ERJ6GEYJ223V	1/10W 22K	1	
R409	ERJ8GEYJ103V	1/8W 10K	1	
R410	ERJ6GEYJ103V	1/10W 10K	1	

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
R414	ERJ8GEYJ472V	1/8W 4.7K	1	
R415	ERJ6GEYJ105	1/10W 1M	1	
R416	ERJ6GEYJ103V	1/10W 10K	1	
R423	ERJ8GEYJ472V	1/8W 4.7K	1	
R427	ERJ6GEYJ472V	1/10W 4.7K	1	
R428	ERJ6GEYJ103V	1/10W 10K	1	
R430	ERJ6GEYJ104V	1/10W 100K	1	
R433	ERJ6GEYJ472V	1/10W 4.7K	1	
R439	ERJ8GEYJ101V	1/8W 100	1	
R440	ERJ8GEYJ102V	1/8W 1K	1	
R441	ERQ16NKR22E	1/6W 0.22	1	△
R442	ERDS1FJ181	1/2W 180	1	△
R443	ERD2FCJ6R8	1/4W 6.8	1	△
R450,51	ERJ6GEYJ472V	1/10W 4.7K	2	
R452	ERJ6GEYJ331V	1/10W 330	1	
R455,56	ERJ6GEYJ102V	1/10W 1K	2	
R458	ERJ6GEYJ102V	1/10W 1K	1	
R459,60	ERJ6GEYJ224V	1/10W 220K	2	
R470	ERJ8GEYJ103V	1/8W 10K	1	
R471	ERJ6GEYJ181V	1/19W 180	1	
R473	ERJ6GEYJ181V	1/19W 180	1	
R474	ERJ6GEYJ392V	1/10W 3.9K	1	
R475-77	ERJ6GEYJ272V	1/10W 2.7K	3	
R478	ERJ8GEYJ222V	1/8W 2.2K	1	
R479	ERJ6GEYJ272V	1/10W 2.7K	1	
R480	ERJ8GEYJ103V	1/8W 10K	1	
R498	ERJ6GEYJ472V	1/10W 4.7K	1	
R701	ERJ6GEYJ4R7V	1/10W 4.7	1	
R702	ERJ6GEYJ103V	1/10W 10K	1	
R704	ERJ6GEYJ102V	1/10W 1K	1	
R705	ERJ6GEYJ154V	1/10W 150K	1	
R706	ERJ6GEYJ102V	1/10W 1K	1	
R707	ERJ6GEYJ393V	1/10W 39K	1	
R708	ERJ6GEYJ223V	1/10W 22K	1	
R709	ERJ6GEYJ683V	1/10W 68K	1	
R711	ERJ6GEYJ823	1/10W 82K	1	
R712	ERJ8GEYJ221V	1/8W 220	1	
R714	ERJ6GEYJ682V	1/10W 6.8K	1	
R715	ERJ6GEYJ102V	1/10W 1K	1	
R717,18	ERJ6GEYJ102V	1/10W 1K	2	
R721	ERJ6GEYJ101V	1/10W 100	1	
R723	ERJ6GEYJ682V	1/10W 6.8K	1	
R724	ERJ6GEYJ183V	1/10W 18K	1	
R725	ERJ6GEYJ391V	1/10W 390	1	
R727	ERJ6GEYJ682V	1/10W 6.8K	1	
R728,29	ERJ6GEYJ392V	1/10W 3.9K	2	
R731	ERJ6GEYJ682V	1/10W 6.8K	1	
R735,36	ERJ6GEYJ101V	1/10W 100	2	
R741	ERJ6GEYJ473V	1/10W 47K	1	
R742	ERJ6GEYJ224V	1/10W 220K	1	
R744	ERJ6GEYJ124V	1/10W 120K	1	
R749	ERJ6GEYJ472V	1/10W 4.7K	1	
R753	ERJ6GEYJ100	1/10W 10	1	
RJ501-03	ERJ6GEYOR00	1/10W 0	3	
RJ508-11	ERJ6GEYOR00	1/10W 0	4	
RJ514	ERJ6GEYOR00	1/10W 0	1	
RJ601-10	ERJ8GEYOR00V	CHIP JUMPER	10	
RJ614	ERJ8GEYOR00V	CHIP JUMPER	1	
RJ616-19	ERJ8GEYOR00V	CHIP JUMPER	4	
RJ621-23	ERJ8GEYOR00V	CHIP JUMPER	3	
RJ625	ERJ8GEYOR00V	CHIP JUMPER	1	
RJ627-31	ERJ8GEYOR00V	CHIP JUMPER	5	
RJ701	ERJ6GEYOR00V	CHIP JUMPER	1	
RJ702-10	ERJ8GEYOR00V	CHIP JUMPER	9	
RJ712-14	ERJ8GEYOR00V	CHIP JUMPER	3	
RJ716,17	ERJ8GEYOR00V	CHIP JUMPER	2	
RJ721,22	ERJ6GEYOR00V	CHIP JUMPER	2	
RJ724	ERJ6GEYOR00V	CHIP JUMPER	1	
RJ726-28	ERJ6GEYOR00V	CHIP JUMPER	3	
RJ731-36	ERJ6GEYOR00V	CHIP JUMPER	6	
RJ750	ERJ6GEYOR00V	CHIP JUMPER	1	
RJ802,03	ERJ6GEYOR00	1/10W 0	2	

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
RJ901-08	ERJ6GEY0R00	1/10W 0	8	
S701	RSH1A043-U	SW, REST	1	
S790,91	RSH1A005	SW, OPEN/CLOSE DET.	2	
S801-09	EVQ11G05R	SW, PUSH	9	
X401	EFOEC4194A4	OSCILLATOR	1	
X701	RSXB33M8J01T	OSCILLATOR	1	

16 Cabinet parts Location



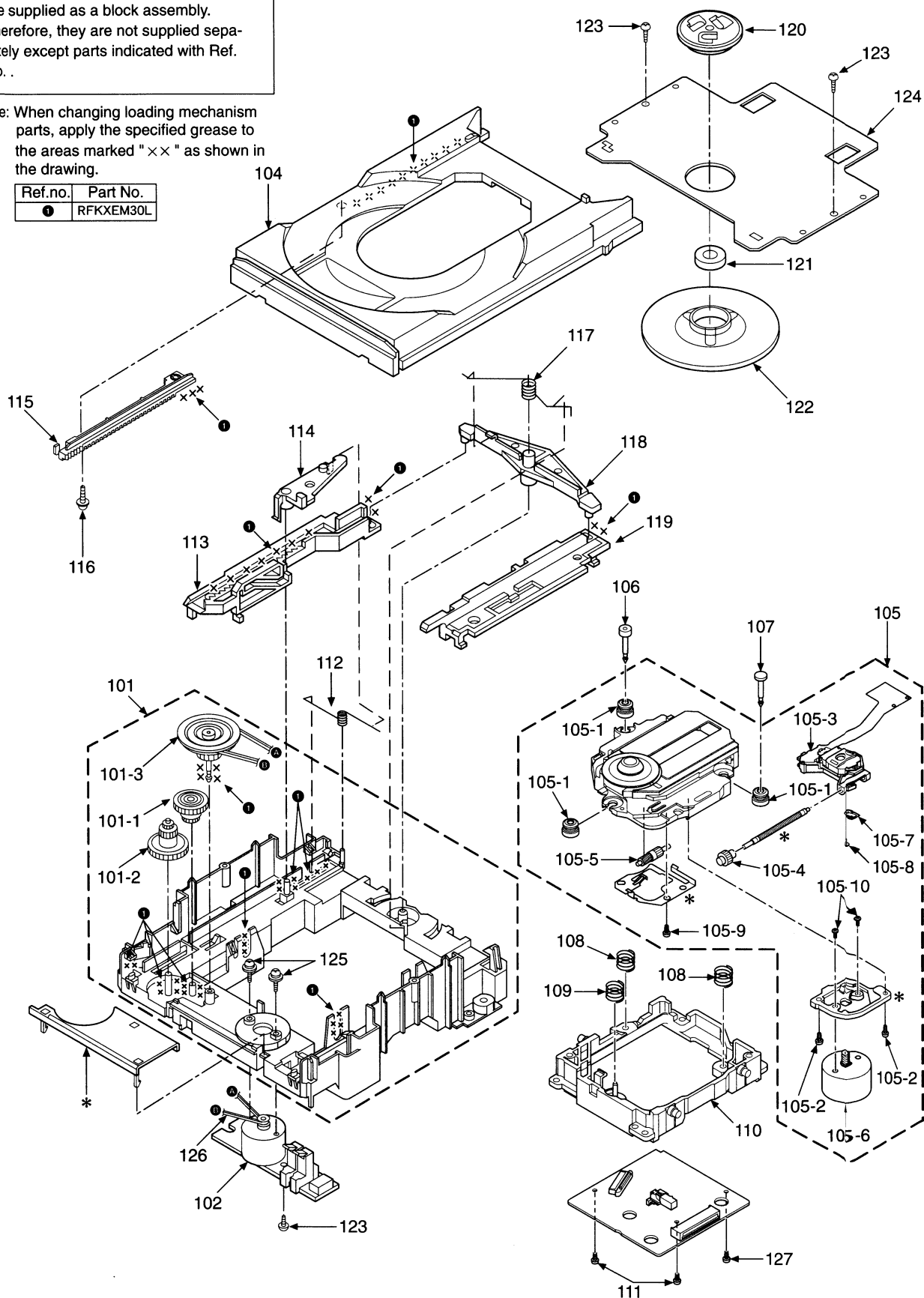
Note : We do not supply those items of parts marked *.

17 Loading Mechanism Parts Location

The parts enclosed in the dotted boxes are supplied as a block assembly. Therefore, they are not supplied separately except parts indicated with Ref. No. .

Note: When changing loading mechanism parts, apply the specified grease to the areas marked "x" as shown in the drawing.

Ref.no.	Part No.
①	RFKXEM30L



Note: We do not supply those items of parts marked *.